CONCEPTS OF EDUCATIONAL MOBILITY

A REPORT TO
THE UNITED STATES
OFFICE OF EDUCATION

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Concepts of Educational Mobility
A report to the United States Office of Education
Compiled by New Learning Technologies Program, Houston, Texas
T. L. Morey, director

The views represented here (obviously) do not reflect the official viewpoint of any United States Government agency.

This publication was made possible through funds from the United States Department of Health, Education and Welfare, Office of Education.

The grant was awarded from the Office of Education, Division of Students and Youth for a research project on educational mobility operating through the University of Houston College of Architecture.

We offer our thanks to the following people who gave us some freedom to try some new things:

John Cameron
Toby Moffett
Hal Lyon
Peter Linkow
William R. Jenkins

The art involved in putting out this manual was furnished by:

Ben Holmes
James P. Henry
Pepper Mouser
Rurik Eckstrom
Steve Jackson
Diana Dillon
Ant Farm
George F. Riseling, Jr.
Martha Eistrup
Doug Hurr

For a videotape presentation of the project send a trade-off 30-minute ½" videotape or $35.00 to

New Learning Technologies Program
2504 Helena
Houston, TX 77006

INTRODUCTION

Concepts of Educational Mobility presents some ideas for education and environment. These ideas are the result of New Learning Technologies Program's effort to deal with some problems we outlined in June of 1970:

> As students review their education, priorities, and needs, new learning situations are developing. Conferences, teach-ins, and workshops are recently evolved situations requiring a new technology to cope with their needs. Long hours in the library, one-hour lectures, and thesis papers fail to fulfill the demands of these dynamic, instant gatherings where data and resources must be up to date, readily available on short notice, and drawn from all over the world. Present learning structures as well as physical structures do not accommodate this type of information exchange.

This book represents our effort to Research methods of applying technology to learning, and to design facilities that can accommodate the people of new learning processes. It presents concepts that illuminate future paths of many disciplines.

We wanted to promulgate some ideas about combining new directions in the areas of mobility, inflatables, instant cities, and media access into a working concept that could be shared with some of the people we had run into on the road. The program applied for some money from the Government to research and report on some of these ideas and to spread and share our vast wealth of knowledge with others. Our eligibility for these funds was hampered by our operating style; for one thing we had no permanent address. We agreed to conduct our research through an existing institution (University of Houston), but procedural naivety on the part of ourselves and on the part of the University led to some fantastic operational difficulties.

Six hundred and fifty copies of "Concepts" will be revised, added to, and distributed by twenty-five of our arty friends to persons known only to them. Sufficient white space has been designed in for add-ons, and the construction of the book lends itself to plenty of passing-on. Three hundred and fifty copies will be distributed to persons in related fields, some universities, and Government personnel.

It is our intention that "Concepts" serve up a visual impression of a part of the work we are in the process of doing. We hope to communicate to people another way of looking at travel, mobility and learning. We communicate ideas by living them in places where people can observe new or different ways of approaching problems.

To write about trucking denies the true practitioner the womb-like solace found in foul-smelling vans washing across barren plains in dead moonlit morning. It should suffice to say that being a nomad in America in the 70's allows for a view of this culture that no land-based center can long afford to hold in its vision.

Enlarging on personal mobility means accommodating, in some semblance of operationability, communication. Information temples need to be taken as places where interface between people (present) and experience (past) meet to interact. Inflatable structures offer several physical capabilities favorable to mobile information flow. But the pyschic advantages of inflatables are not to be underestimated; light and airy in nature, these man-made "bubbles" impose on no one's territorial toes, and leave participants in full control of any structural future.

Anyone who has grown up (down) in suburbia has lived the four-sided boredom imposed by living on a grid of predetermined size and shape in a house of the same rule. These shapes ignore the human form in motion and serve only as commuter car passage slots for rush hours. New ways of defining the motions of living are long overdue.

The Reo truck on pages 30 and 32 served as the base vehicle for the project's off-the-road trampings and was a working model of Government war tech that was a never-ending source of design inspiration. On-the-road work was done by modified vans who visited fourteen schools and nine conferences, and logged 16,000 hard miles during seven months on the road.

The proposal requires an assembly of instantly mounted enclosures, together with electronic sound, and display equipment that could be used to tour provincial towns, and thereby inject into them a high-intensity boost that would be sustained by the slow development of a national communications and information network that would advertise and relay further events and entertainments.

The feeling of being left out of things has for a long time affected the psychology of English provincial culture, so that people become either over-protective about local things or exaggeratedly frustrated. Now that we are really nearing a time when there is a leisure period at the end of the working day, and the majority of people are at least well enough educated to have a wide potential of self-expression (or sheer enjoyment, to which they are entitled) they have become dissatisfied with alternatives such as TV, the youth club or the pub.

Archigram Group have turned their attention towards the idea of 'environment' not just as a special condition or a specially-appreciated aspect of special places, but as an analog to the collecting together of a multiplicity of factors that can be perceived or experienced. In our more recent work, particularly in exhibitions, (which have so far been the only practical opportunity to test some of our ideas), we have found that an exciting offering can be made by the combination of a software programme and a number of variables that can be chosen by the person in the 'driver's seat'. The result can be a replacement to architecture that (for once) responds environmentally to the individual. At the moment these experiments are crude, and the philosophical statement forced. An interesting stage is being reached, however, whereby the territory of such a scrambled set of starters as kinetics, photography, cybernetics, electronics, volume-architecture, amateur automobile-engineering (to name only a few) have produced assemblies that can give us information, art kicks, and maybe transport: all as part of the same package.

instant city AD 5 69

PAGE 1

Universities in the U.S.A.

Richard P. Dober

We thus find something new in the way of a university concept, a clustering effect—a colloidal mix in an urban area—of many kinds of institutions. For example, in the Boston-Cambridge area we have Harvard, MIT, Boston University, Northeastern University and six or seven different medical schools, art schools, and so forth, which now form something that can be called the Charles River University, which is a geographic description of the sense of place, with more than 100,000 students. It comes closest to the idea of the Medieval university in which students wander back and forth from place to place, selecting their lecture courses, the ideas they want to pursue. In fact, the notion of a fixed campus may be thus disappearing.

University Planning and Design

A symposium

edited by Michael Brawne

Ecology, for the Evolution of Planning and Design

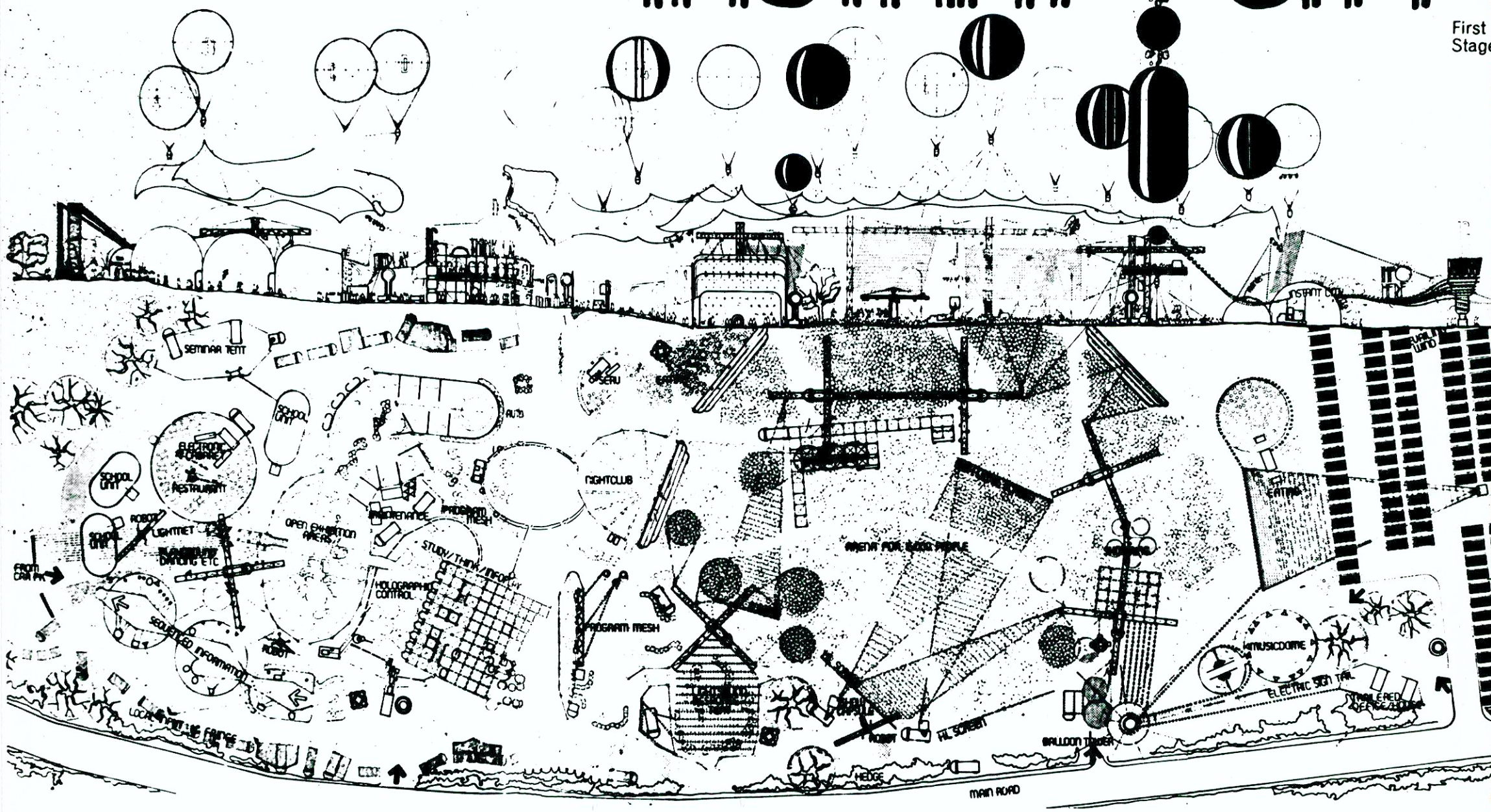
Ian McHarg

In the Western world during the past century, transformation of natural environments into human habitats has commonly proved to be retrogressive. In earlier times, because of the slowness of change, this was not so. Few among us regret the loss of ancient marshes for Venice and Amsterdam, or the loss of ancient hills for Athens and Rome. History testifies to human adaptations, accomplished with wisdom and art, which were and still are felicitous. Yet the principles which these successes were based upon are inadequate for the speed, scale, and nature of change today. In the 17th century it required a third of the treasury of France, the mature life of Louis XIV, and the major effort of André le Nôtre to realize Versailles. Three centuries later, Greater New York will urbanize at the rate of 50,000 acres and 600,000 people per year — without a plan. Paradoxically, in this period of change the city plan has remained like the Renaissance one which motivated Versailles, a poor symbol of man-nature in the 17th century, inexcusable as a prototype for the 20th century.

Peter Cook, Dennis Crompton, Ron Herron/Archigram group ,

INSTANT CITY

First
Stage



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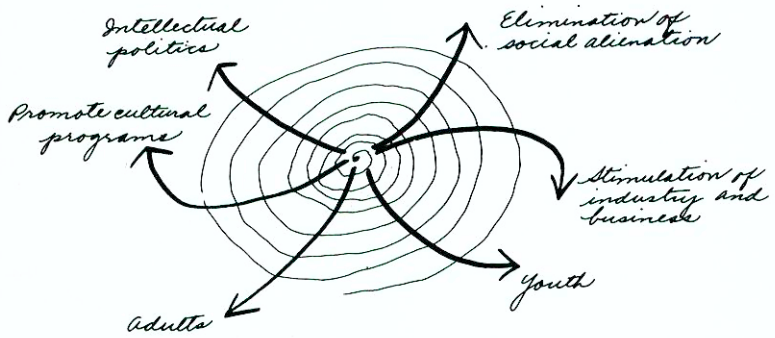
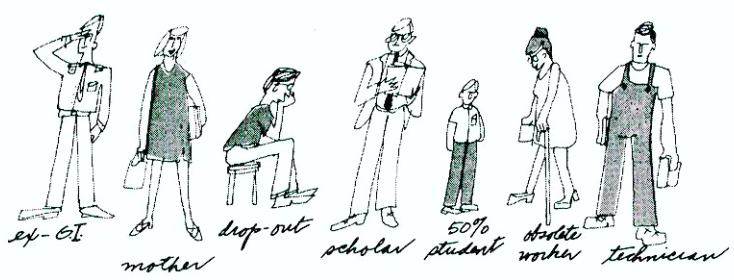
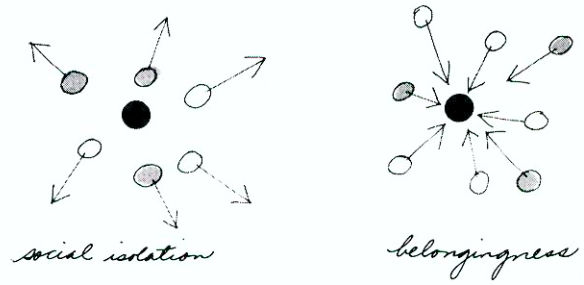


The prime concept of the Community College: It is **FOR, OF,** and **BY THE COMMUNITY**. Let the community's own college be a **REGENERATIVE FORCE** to raise the aspirations for building a better community

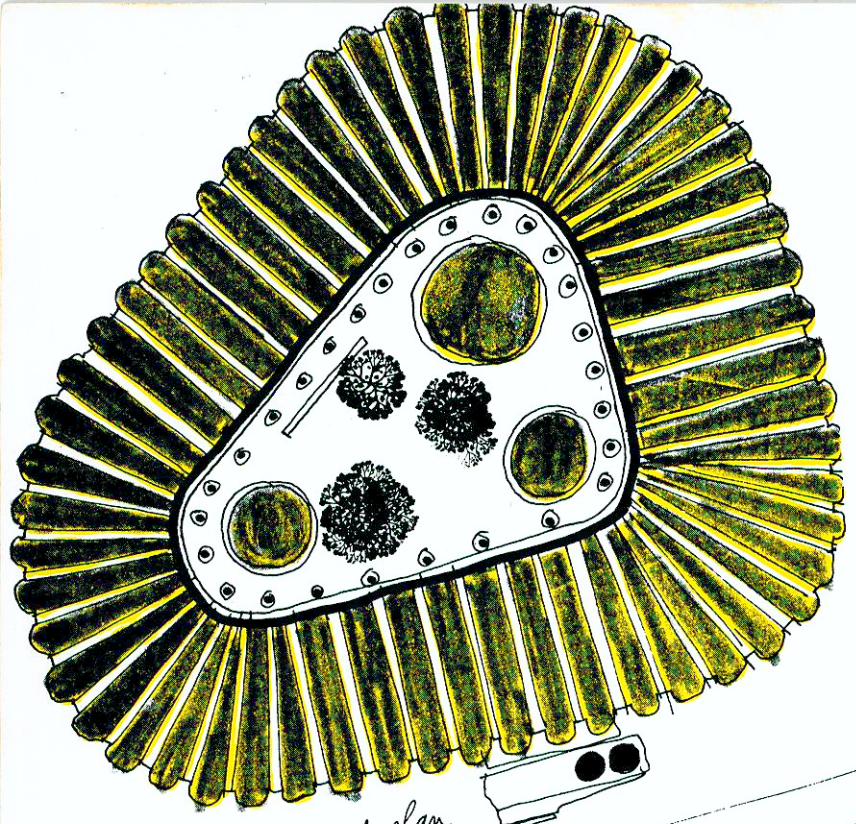


The junior college student body is the most **DIVERSIFIED** of any institution, a problem that Architecture can help solve.



The great **RANGE OF STUDENT DIFFERENCES** - age, sociological, ethnic, economic, intellectual requires special attention to the way Architecture can help create sociological benefits.

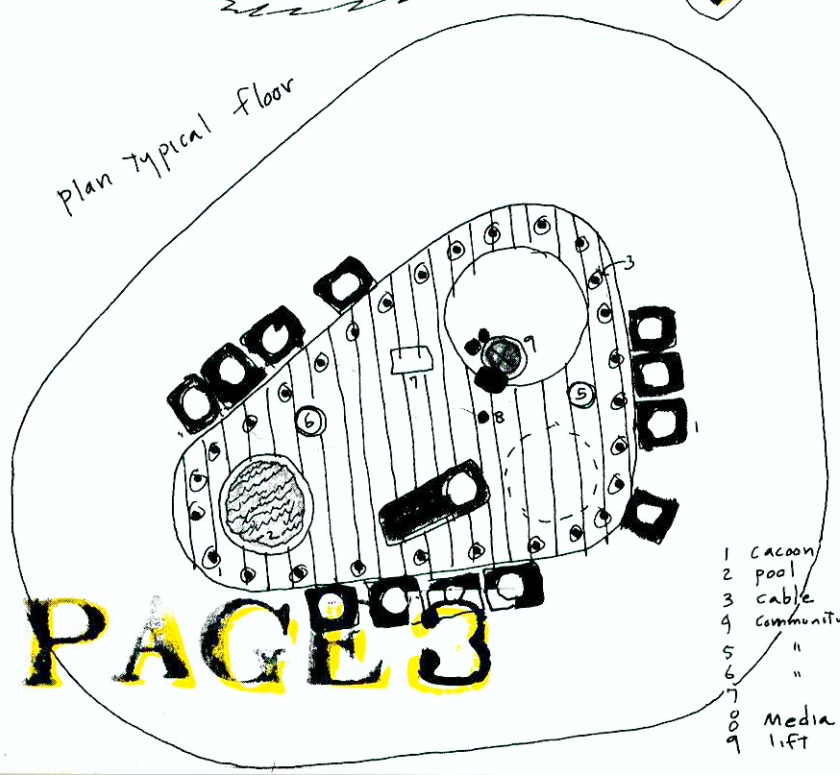
PIMA COUNTY JR. COLLEGE CAUDILL ROWLETT SCOTT INVESTIGATION 15

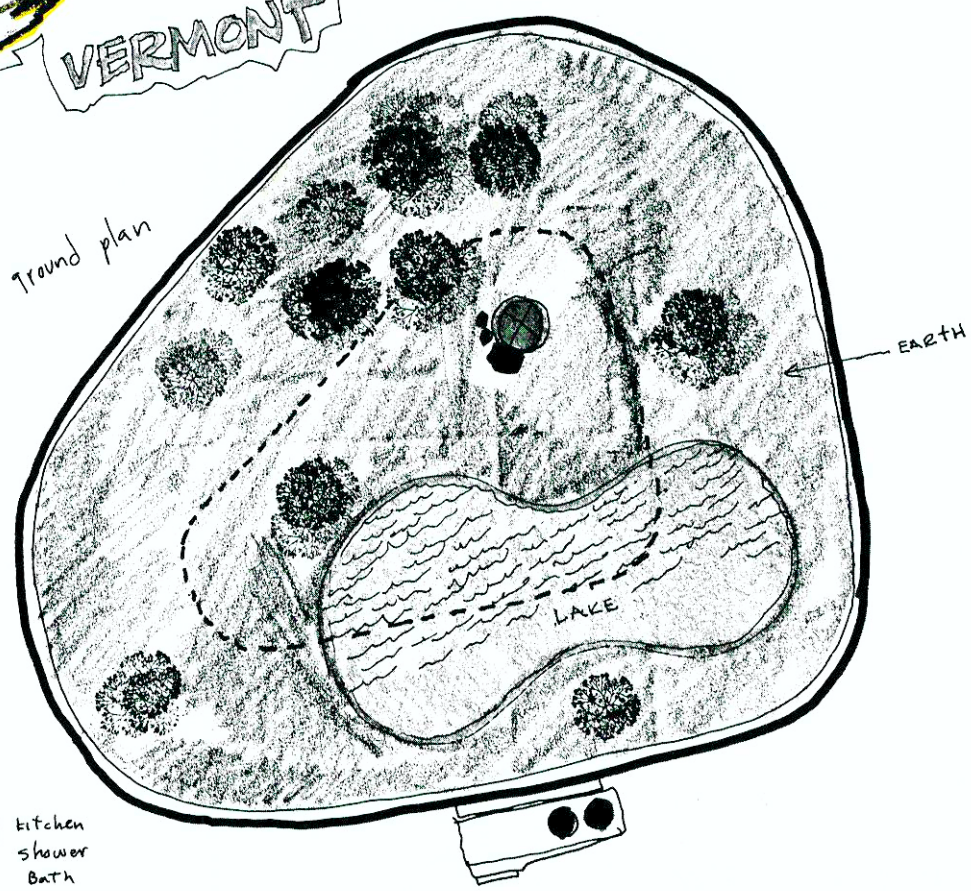


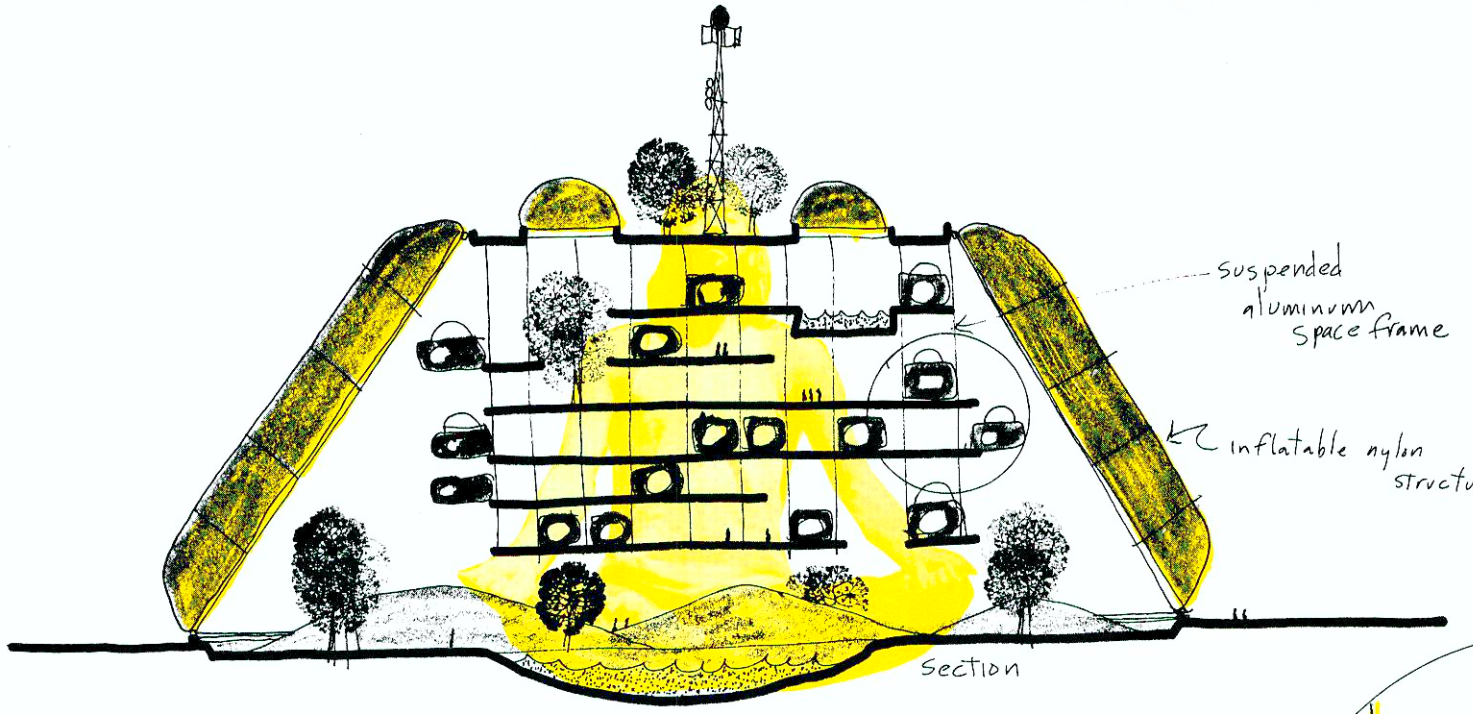
Conventions: 1. If it is true, as we have long been told, that resisting temptation strengthens virtue, then getting something worthwhile out of a convention might be counted a step along the way to heaven. The trouble with conventions is that they seem to work against useful endeavor, throwing up instead a barrage of temptations, all of which magnify human traits to the point of being real obstacles.

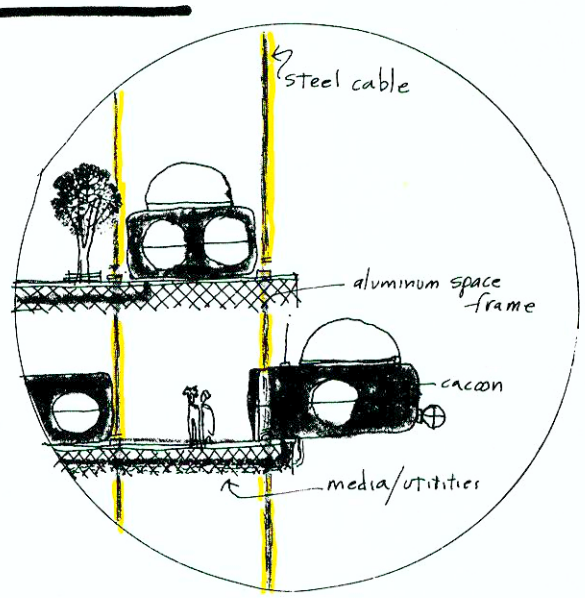
It's almost as if they were planned that way. Built into the very nature of a convention is the temptation to mingle only with your own kind. Human nature, yes, but you don't learn much that's new from your own crowd. And it is very tempting to overrate the importance of all the talk: words are equated with deeds, and ringing pronouncements with real accomplishments. There is, however, one temptation that might be more dangerous than any of the others: the temptation to forget what everybody is there for.

Editorial
Progressive Architecture 8:71

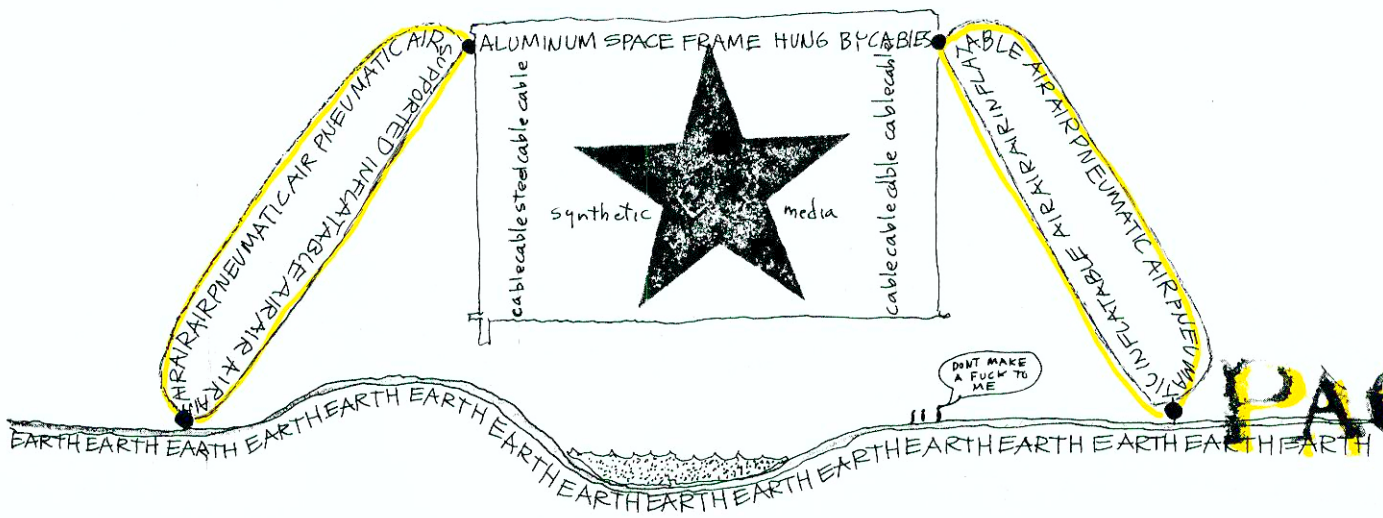





suspended aluminum space frame
inflatable nylon structure
section


steel cable
aluminum space frame
cacoon
media/utilities

elevation


ALUMINUM SPACE FRAME HUNG BY CABLES
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Pneumatics 8

The pneumatic structure designed by Tom Colburn, Paddy Acheson, Bill Hanna, Robin McKelvey and Graham Hardy is made in the form of a spiral similar to a watch spring except that the whorls overlap.
When the spring is extended in the vertical plane it has a tendency to return to its original horizontal position. Similarly when the pneumatic structure is inflated, the air pumped in displaces the whorls upwards and induces the resultant force downwards. The torsional stresses set up in the membrane give a compressive force which produces overall rigidity in the structure. It is, in fact, a prestressed pneumatic structure.

Architectural Design April 1971
40 USA $1/50

PAGE 5

The plastic creation after it left the Bryn Mawr lawn.

9

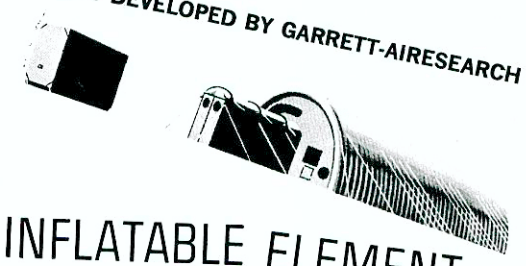
Now, we have flying art. It happened on the campus of Bryn Mawr College, Pennsylvania, and was created by Paul von Ringelheim. Born in Vienna, the artist was educated at Brooklyn College; received his M.A. from Fairleigh Dickinson University. He received a Fulbright Scholarship to Munich in 1960; was named Outstanding Young Man of the Year for his World Peace sculpture at the U.S. Federal Pavilion at the 1964 New York World's Fair. He has had many commissions in architecture and sculpture and is represented in many collections, including the Whitney Museum of American Art, the Museum of Modern Art, N.Y.C., the Museum of Modern Art, Tokyo, etc.

His creation — could it really be called sculpture? — was made of long strips of Celanar polyester film (Provided by Celanese Plastics Company, and metallized by the National Metallizing Division of Standard Packaging) taped together to form a 2,000 square foot "double mirror." Grommets were inserted along the sides and across the diagonals. One hundred three-foot balloons filled with helium were attached to the grommets. Paul von Ringelheim and the students assembled the huge "thing" in the gymnasium of Bryn Mawr. As the ropes tying the creation to the lawn were removed, the whole thing began to rise, "Like Walt Disney's Fantasia."

The mirroring effect reflected the students below and the sun above until the creation was caught by a sudden gust of wind and thrown against a tree. The pricked balloons cracked like rifles. The students then tore the thing into shreds and carried the pieces off as souvenirs. BY PHILIP BARD

TODAY'S ART, VOL. 19, No. 12. ©

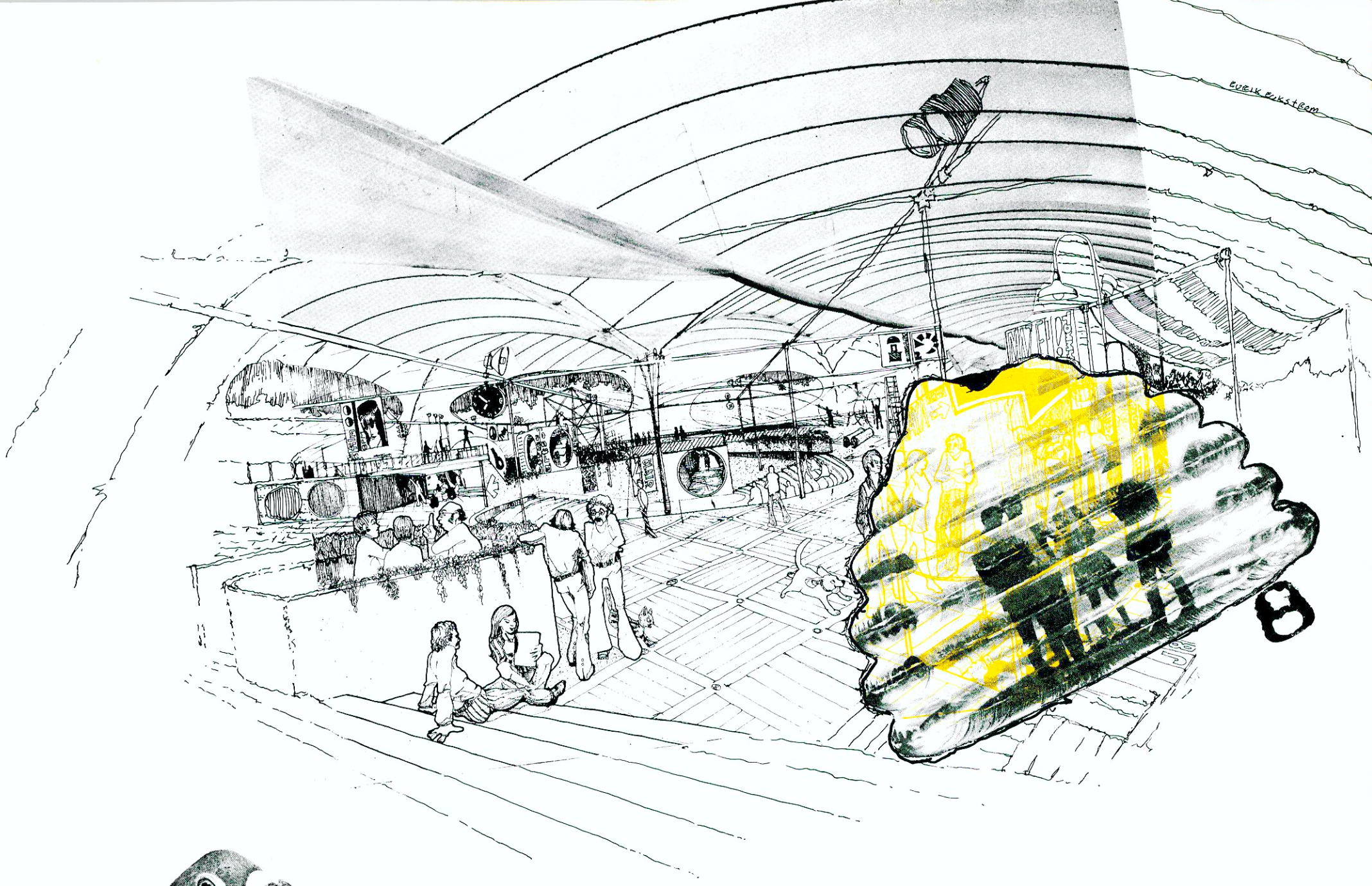
MOBILE HOSPITAL SYSTEMS DEVELOPED BY GARRETT-AIRESEARCH

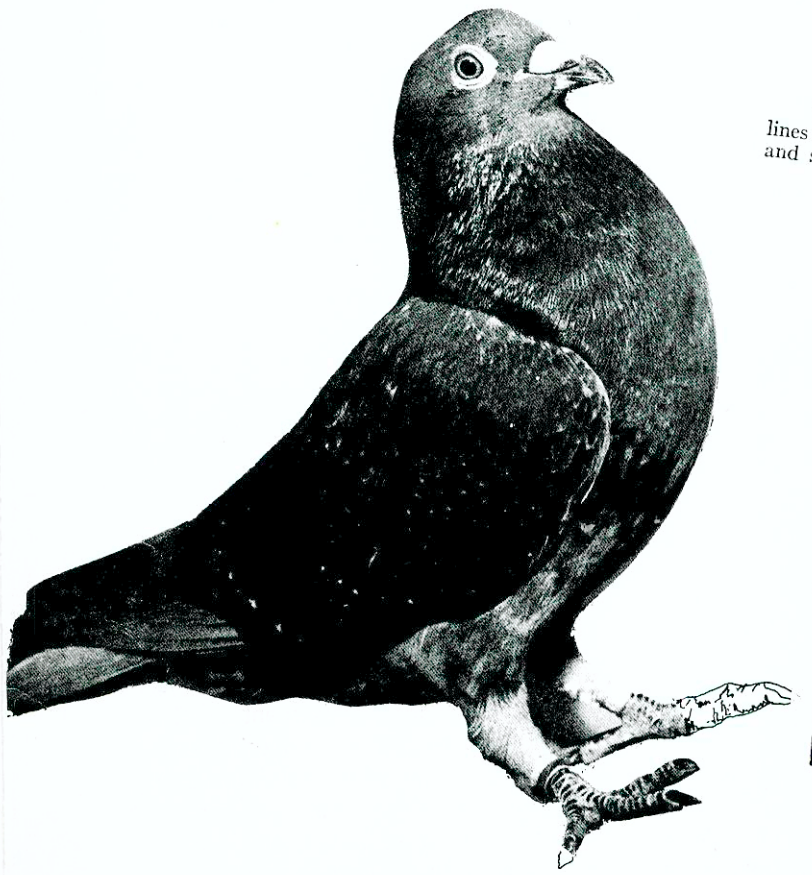


3 INFLATABLE ELEMENT

The basic features of
this new unit include mobility, short setup time, high reliability and efficiency, controlled environment, and the capability of maintaining all-weather operation. ▪ Not only is the new mobile hospital system a considerable improvement over previous equipment, but also the same type of complex and its power package would be useful in numerous other military and non-military applications requiring self-contained medical or other field facilities. ▪ Mobility and flexibility are provided by the modular design of compact, lightweight shelter units and power packages which can be erected into virtually any size complex. The selected combination of units assures flexibility. Units may be added, removed or rearranged easily as requirements change.

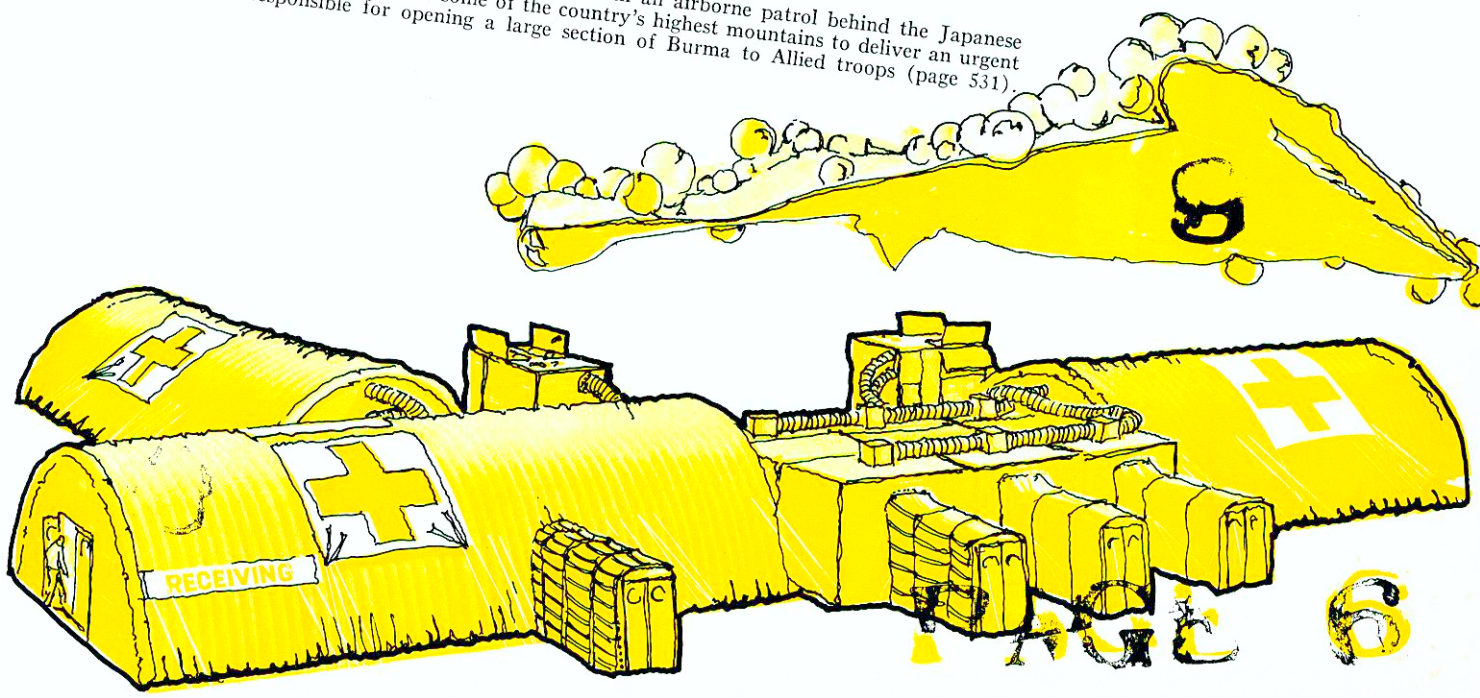
The air inflatable element is a dual wall, synthetic rubber-coated, Dacron fabric structure with a floor area 20 feet wide and 52 feet long. It is packed in a skid mounted enclosure that also contains an air lock and all necessary equipment for erection and operation. It weighs about 4000 pounds when packed. Each typical element is made up of four 13 foot sections and two end panels. Since they are joined by zippers and buckle connections any desired length can be assembled. The entire element is anchored on the sides and hold-down stakes secure the insulated floor. ▪ When the dual wall element is inflated to the normal air pressure of 1.5 psig, it will support a snow load of 10 pounds per square foot. It can withstand a wind condition of 80 miles per hour. ▪ Electrical power and air conditioning service connections are provided with each element, as are electric power cable supports on the ceiling and sides.





"Private Jungle Joe Reporting, Sir"

When only four months old, this sturdy bird was dropped with an airborne patrol behind the Japanese lines in Burma. Released, he flew 225 miles over some of the country's highest mountains to deliver an urgent and secret message that was responsible for opening a large section of Burma to Allied troops (page 531).

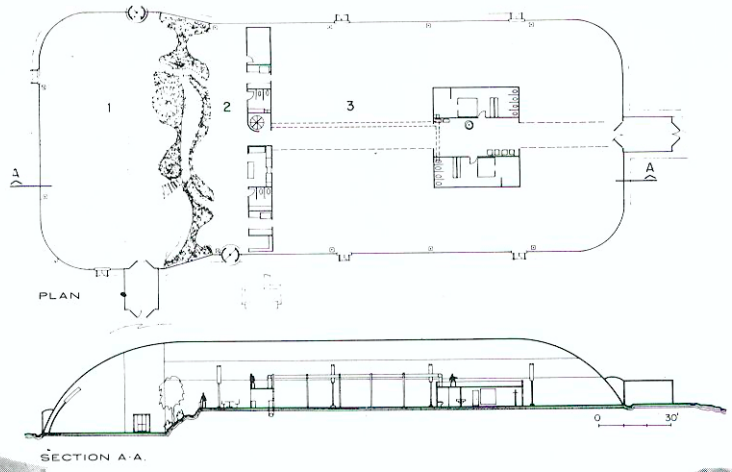


Inflatable structures, also rare in academic use, are receiving more attention. The Educational Facilities Laboratories, Inc. has provided grant funds for the design of two bubble structures, one for The Student Housing Cooperative at Princeton University, Inc. Plans call for a bubble enclosing one-half acre to house 50 single and married students and faculty — "... a place where the people living can have an opportunity for real self-determination...." The structure will have three distinct, interconnected functional areas — private, shared and public, each occupying its own grade elevation.

At Antioch/Columbia College in Maryland, a larger inflatable enclosure is planned to house, in one acre, the entire campus for students in special programs covering all aspects of the growth of a new city. The students requested that the facility be "nomadic/pneumatic," in keeping with the nature of their course. When Columbia reaches a population of 100,000, patterns and effects of growth may take on aspects of all other similar cities. At that time Columbia/Antioch might cease to be, and the students could follow developments elsewhere.

The Antioch bubble will house 300 students, and will include administrative functions, classrooms, resource areas, theater practice facilities, art studios and a college green. A prototype will be built from which much information will be gathered before beginning the main structure.

The Antioch designs are the result of a group effort by the office of architect Rurik Ekstrom, the Research and Design Institute (REDE), Charles Tilford and students at both Antioch and the University of Maryland. Engineers at The Goodyear Tire and Rubber Company have also contributed their technical knowledge of inflatable design and materials.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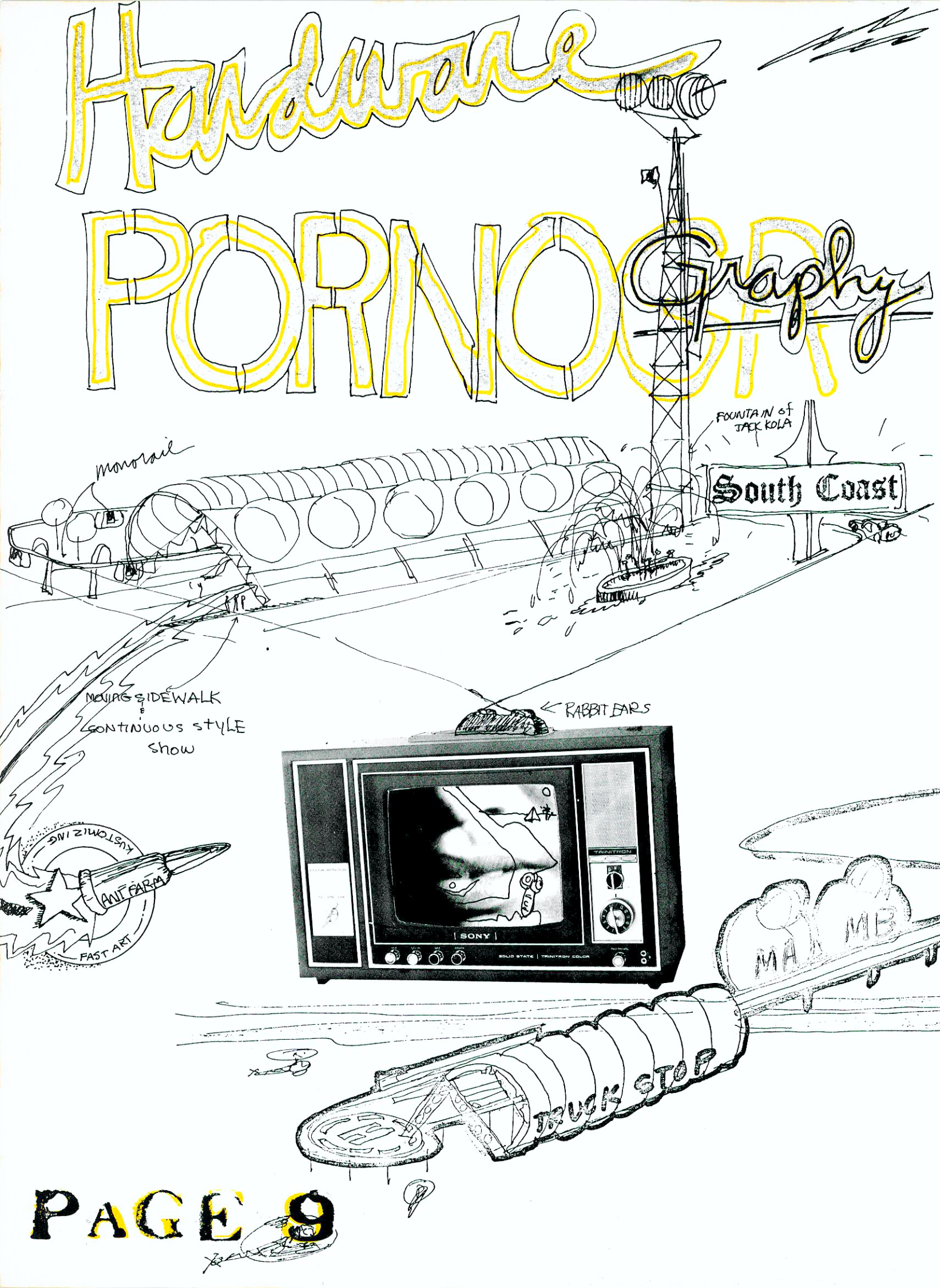
SECTION A-A

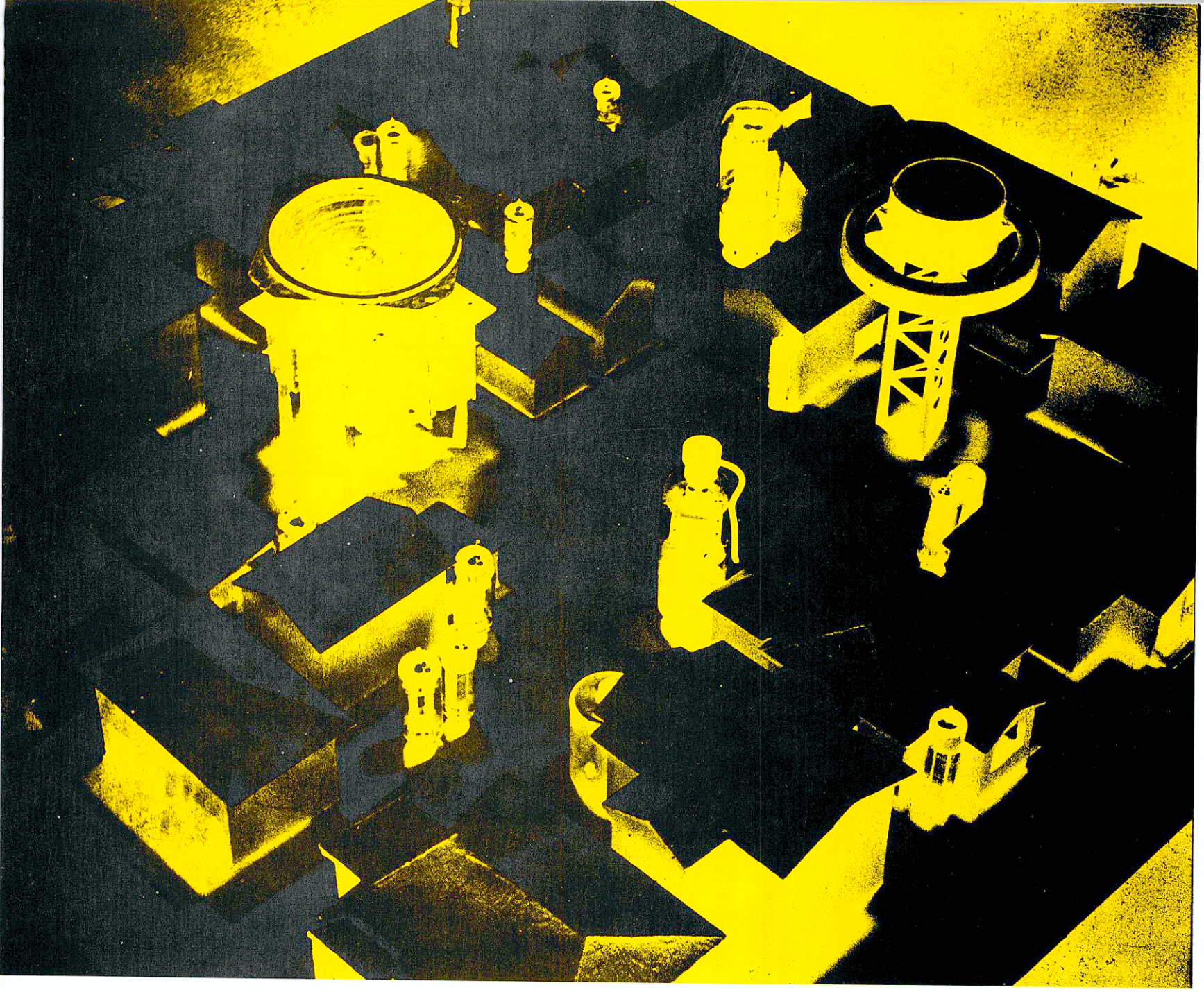
Hardware PORNOGRAPHY

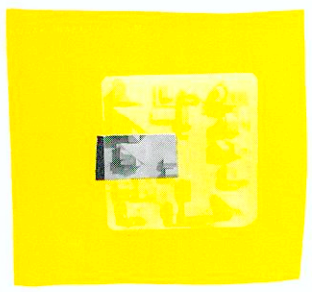


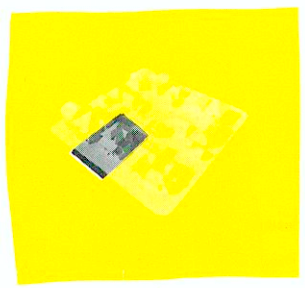
Southcoast TRUCK STOP

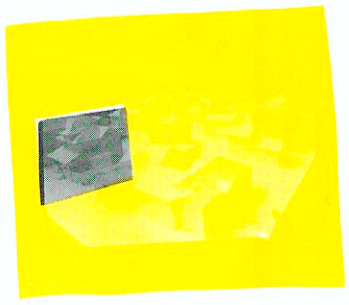
1. STEEL CANOE
2. CAMPING
3. MEDIA DOME ALPHA
4. MEDIA DOME BERNICE
5. TELE TOWER : PLR 700 LINK.
6. MEGA FRAME/ CORE
7. HIGHWAY
8. GAS STATION
9. PEOPLES GARAGE
10. SHED
11. HELIPORT
12. VERTTRANS/UTIL.

1. STEEL CANOE
2. MEDIA TOWER
3. SOLAR ENERGY
4. MEGAFRAME/CORE
5. HIWAY









Paper given at Ist International Colloquium on Pneumatic Structures Stuttgart

In the past major urban congregation areas were determined by the location of a large permanent structure providing mass accommodation or shelter such as the Roman Circus, the Mediaeval Cathedral, the Market Hall and the Sports Stadium. With the use of air structures such permanence is not required and so the additional restrictions of the fixed site should now be avoided. In effect, large air structures can enable planners to reverse the pattern of traditional urban congregation and servicing nodes found in existing towns or cities. In new proposed urban settlements such nodes need no longer be permanent generators of fixed urban patterning.

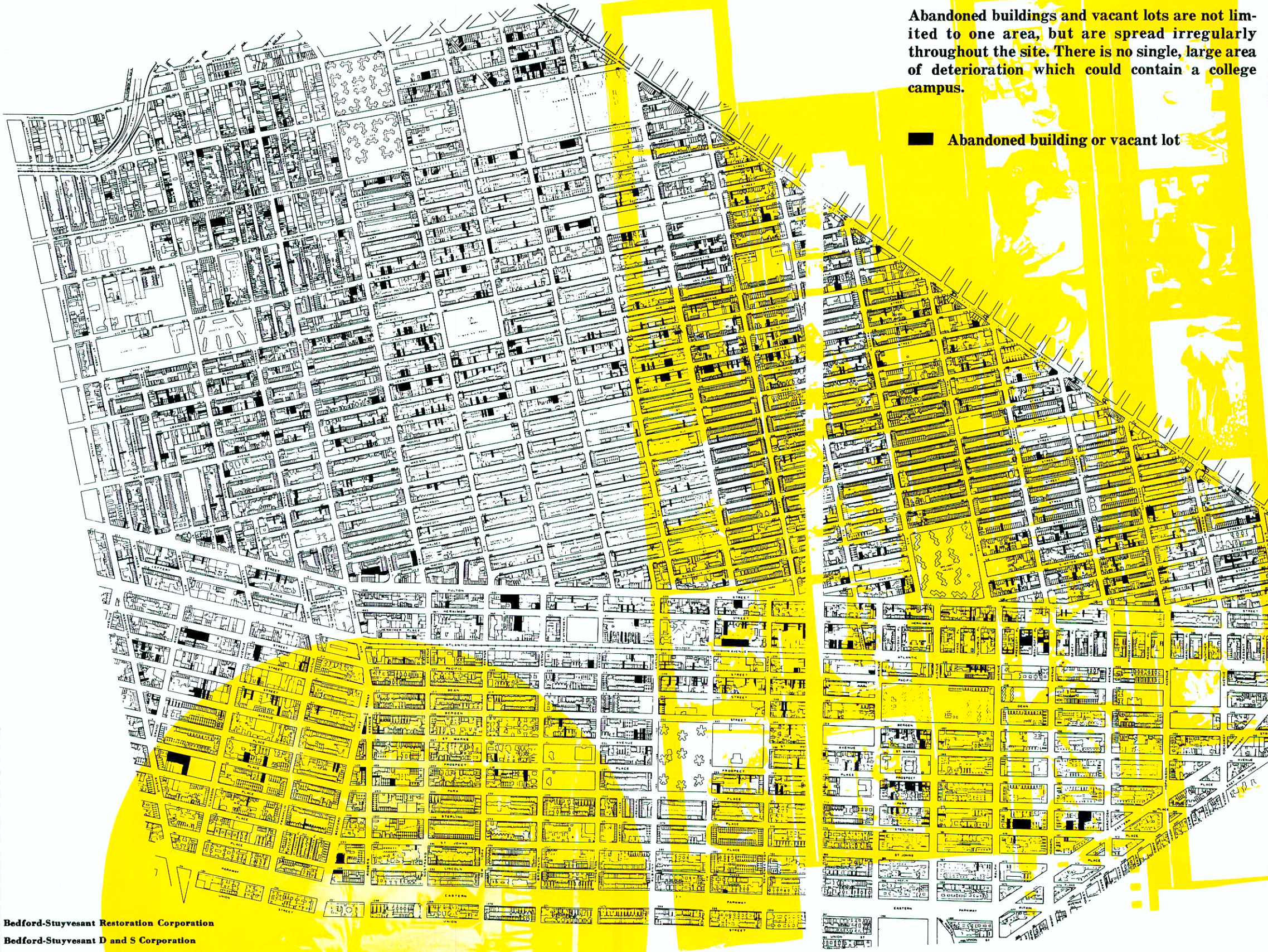
Theuse of air structures to provide short-term small and medium sized social facilities enables the siting of short-term mobile housing to be independent of towns offering similar facilities.

Air structures are already used to provide industrial production space particularly where the demand for such space is likely to fluctuate. Thus in effect we already have the mobile factory, but it must be further developed and its potential further exploited.

Work on disaster control and emergency planning has, over the past years, produced a wide range of pneumatic appliances and applications such as *fabridams, dracones,* vehicular *hover-pads* and *GEMs* or hovercraft. However, such uses of air structures have not yet been seen as a method of reducing the dependence of emergency planning. That is, they have not been viewed as a potential asset to society enabling rapid yet variable control and communication to be achieved. Such realisation, backed by increasing design and development work, can enable air structures to contribute to a higher degree of sensitivity in society's continuous control of the physical environment.

cedric price

reprinted from Architectural Design, October 1970



Abandoned buildings and vacant lots are not limited to one area, but are spread irregularly throughout the site. There is no single, large area of deterioration which could contain a college campus.

Abandoned building or vacant lot

Bedford-Stuyvesant Restoration Corporation

Bedford-Stuyvesant D and S Corporation

A procedure called the "Numeric Method" has been developed which will provide the framework for translating the educational program into physical facility requirements. The methodology presented provides satisfactory answers to the following basic questions which should be answered for any method of projecting and analyzing physical facilities.

1. What types of physical facilities are required for the educational program?
2. What will generate the requirements?
3. Will the system used to generate the physical facilities treat all fields of study objectively?
4. Is the system designed to permit comparison of data with other universities?

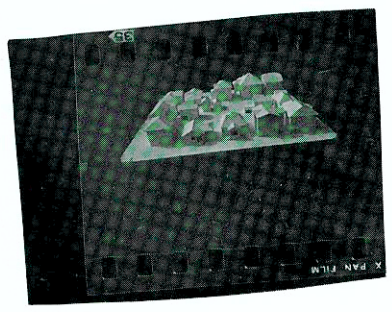
The general philosophy of the "Numeric Method" for determining requirements is that the physical facility requirements may be categorized into what will be called "building blocks." For each "building block," there exists an index which will generate the space requirements. The total amount of space required at an institution for each "building block" is dependent upon the number of FTE (full-time equivalent) students, the level of student, the fields of study, the institutional philosophy pertaining to scheduling patterns, size of library, etc.

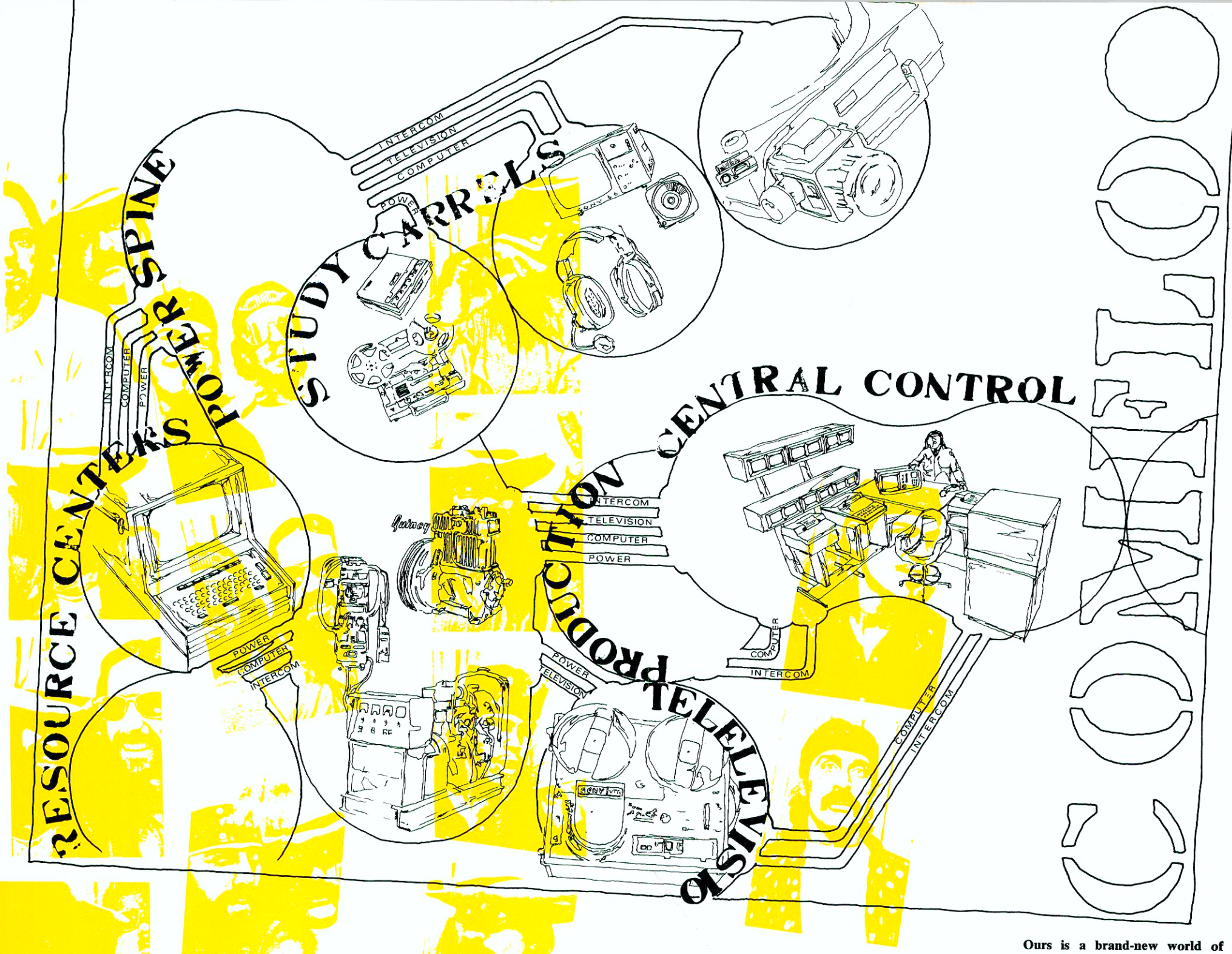
The "Numeric Method" for projecting space requirements has been developed so that it can be applied to all sizes and types of institutions of higher learning. Institutions, like people, have different characteristics. In many cases, standards have been recommended which have been applicable to the University of Illinois. The actual value of the proposed standard may not be adaptable to every institution due to differences in philosophies; however, if a different standard value is used, the logic and procedure can still be applied. In addition to being an internal management tool for allocating existing facilities and for determining future physical facilities required, this system was developed to serve as a basis for evaluating capital budgets by boards of higher education or legislative groups.

UNIVERSITY SPACE PLANNING

TRANSLATING THE EDUCATIONAL PROGRAM OF A UNIVERSITY INTO PHYSICAL FACILITY REQUIREMENTS

by HARLAN D. BAREITHER
and JERRY L. SCHILLINGER





World university-

a global state of mind

By John McHale

Ours is a brand-new world of allatonceness. "Time" has ceased, "space" has vanished. We now live in a global village . . . a simultaneous happening.

—Marshall McLuhan

We live in a global neighborhood. Technology indeed has made it possible for us to cast the nets of our imagination around the world with more ease than our grandfathers could perceive the boundaries of the counties in which they lived. This single, continuous happening is doing more to alter our world, and the way we must think about it, than all the thoughts and events which make up our Western heritage. Indeed, we may well expect more profound changes in our way of life in the next fifty years than have occurred throughout the course of previous human history.

Published by the Editors of *motive* Magazine.
P.O. Box 871, Nashville, Tenn. 37202

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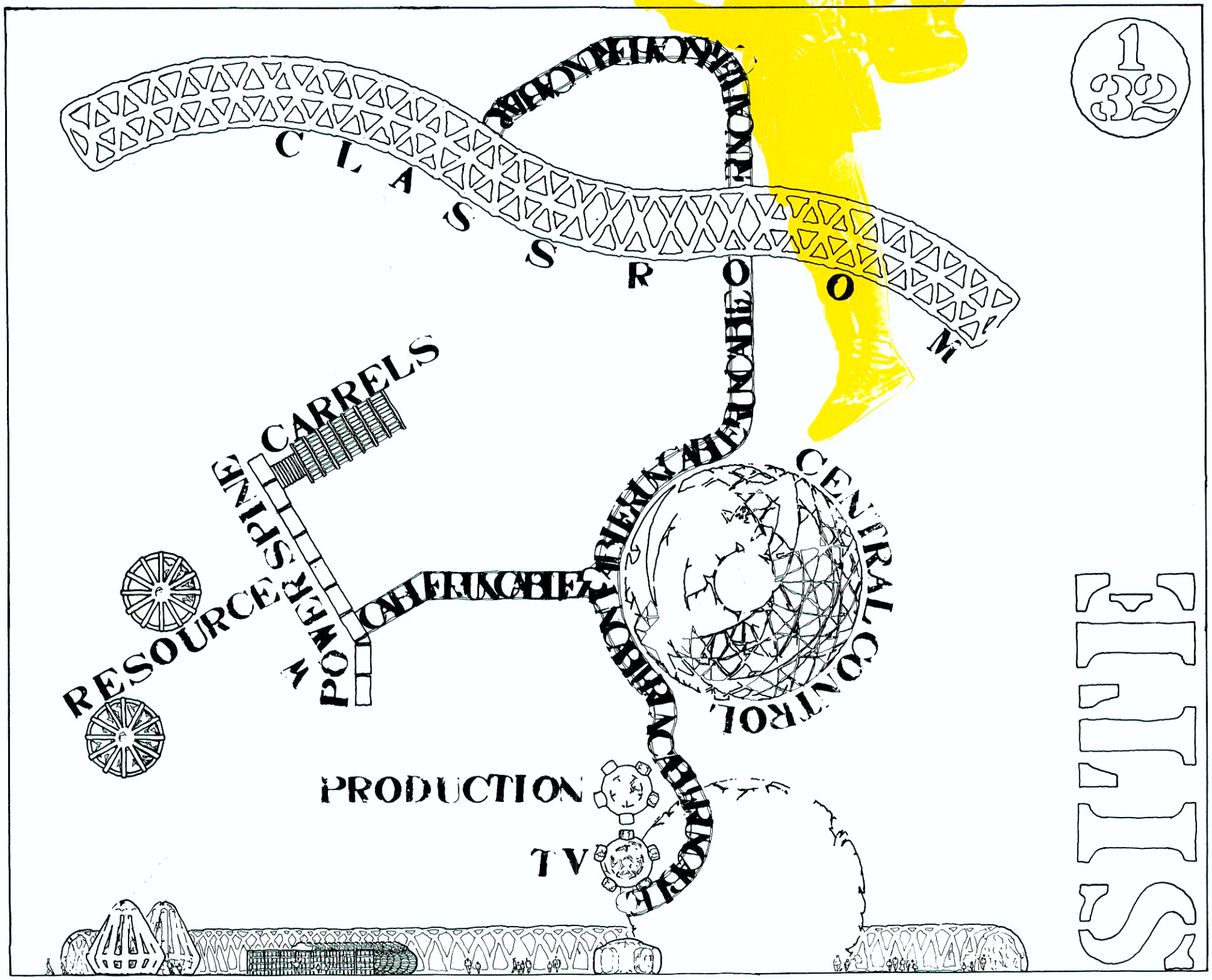
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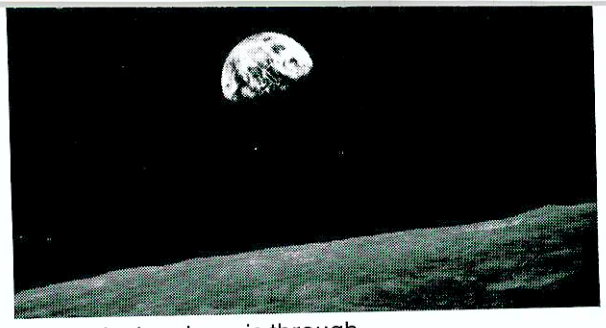
CLASSROOM
CARRELS
RESOURCE CENTER
PRODUCTION
TV
CENTRAL CONTROL
TITLE

Power for a dying planet



One way to make better use of the fuel we have is through the system of total energy in which a single, small power plant provides on-site production and distribution of all energy requirements for a facility—electricity, heat and air conditioning. In a gas total energy system, the heat that is not used to generate electricity is used directly as heat. That, plus little conversion loss and no transmission losses, can result in a 70 to 80 percent efficiency. Natural gas is almost always used over other fuels because it is usually the cheapest, it cuts maintenance costs because it does not affect the machinery in which it is used, it does not have to be stored, and it produces negligible pollution.

Another fuel conservation method now being tested is the gas fuel cell power plant, a highly efficient unit no larger than a normal home furnace that produces on-site power directly from natural gas through an electrochemical reaction. Its only wastes are small amounts of steam, carbon dioxide and heat, and its great advantage is that, if feasible, large-scale use of the devices could eliminate polluting power plants, substations and unsightly transmission lines.

Progressive Architecture 10:71

One utility element will provide power for the equivalent of four inflatable elements or six expandable elements, plus one additional expandable element having heavy power needs (such as for X-ray facilities) at the temperature extremes of —65 degrees F or +120 degrees F. In the moderate temperature ranges, up to twice as many of each element may be serviced by one utility element. The element is in a sound attenuated, weatherproof enclosure 72 inches wide, 108 inches long, and 86 inches high

and is equipped with an AiResearch gas turbine which provides power for cooling, heating and electrical needs. It weighs approximately 3800 pounds. All necessary ducts and cables are stowed within the unit. ■ One operator can easily operate and service the utility element, which has safety features and automatic controls that assures safe and reliable operation, even by unskilled personnel. The only external requirements are fuel for the engine and fresh water for the hot and cold water systems.

garrett air research

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In order to arrive at how much air the fan is going to put into the bubble and how much area of holes it will take for this air to pass through the bubble while maintaining the proper pressure in the bubble requires a series of calculations. Since the amount of air we are going to pass through depends on the heating and cooling requirements, we must figure out what conditions are going to make it hotter and how much hotter, then balance this with the factors that are going to cool the bubble.

HEATING FACTORS	1) sunshine
	2) people inside
COOLING FACTORS	3) conduction through the bubble skin
	4) passing air through the bubble

How to figure these follows:

1) HEAT GAIN DUE TO SUNSHINE

Heat gain due to sunshine is Very Approximately 300 BTU/sq.ft./hr. of direct sunshine (sun at 90 degrees to the surface of the bubble). Heat drops off towards sunset or as the angle the sun makes with the surface of the bubble diminishes.

It should be noted here that if you're using white polyethylene, which you should be if you are doing anything in the sun in hot weather, the heat gain will be somewhat less, but we will design for the maximum heat so we will have a little more cooling power than necessary rather than a little less. . . .

2) HEAT GAIN DUE TO PEOPLE INSIDE

Heat gain due to people inside is very approximately 400 — 1,000 BTU/person/hr. This depends on the level of activity of the people. If the bubble is going to be in full sun, this figure will be negligible compared with the heat gain due to the sun.

3) HEAT GAIN

3) HEAT LOSS DUE TO CONDUCTION THROUGH THE BUBBLE SKIN

$Q = (A)(\ T)(U)$

Q = conduction loss in BTU/hr
A = surface area of the bubble (not counting that which is one the ground)
T = the difference in temperature inside and outside the bubble in degrees Fahrenheit
U = heat transfer coefficient for polyethylene (about 1.2)

4) HEAT LOSS DUE TO PASSING AIR THROUGH THE BUBBLE

$Q_{air} = (W)(C_p)(\ T)$

Q_{air} = heat loss in BTU/hr
W = cubic ft. of air moved per hour
C_p = heat capacity of air (about .016 BTU/ft^3)
T = difference between inside and outside temperature in degrees Fahrenheit

Now in order to use these figures, add together all the gains from heat and people, subtract from this the heat loss due to conduction, and solve the 4th formula for W or the amount of air you are going to have to move.

In order to pass this much air through a bubble, it is necessary to have some holes for the air to flow out. To get a rough idea of how big these holes should be, we will use the fan performance curve (which has been determined by the above figuring) figure obtained above for the required number of CFM to be moved, and the following formula:

$$P_d = \frac{(p)(v^2)}{2G}$$

P_d = pressure drop at a hole (about 1lb./sq.ft. under normal conditions
p = density of air which is about .07 lbs./$ft.^3$
V = air velocity at the hole (in ft./sec.)
G = acceleration due to gravity
2G = 64 $ft./sec.^2$

V = (approx) 30 for normal conditions

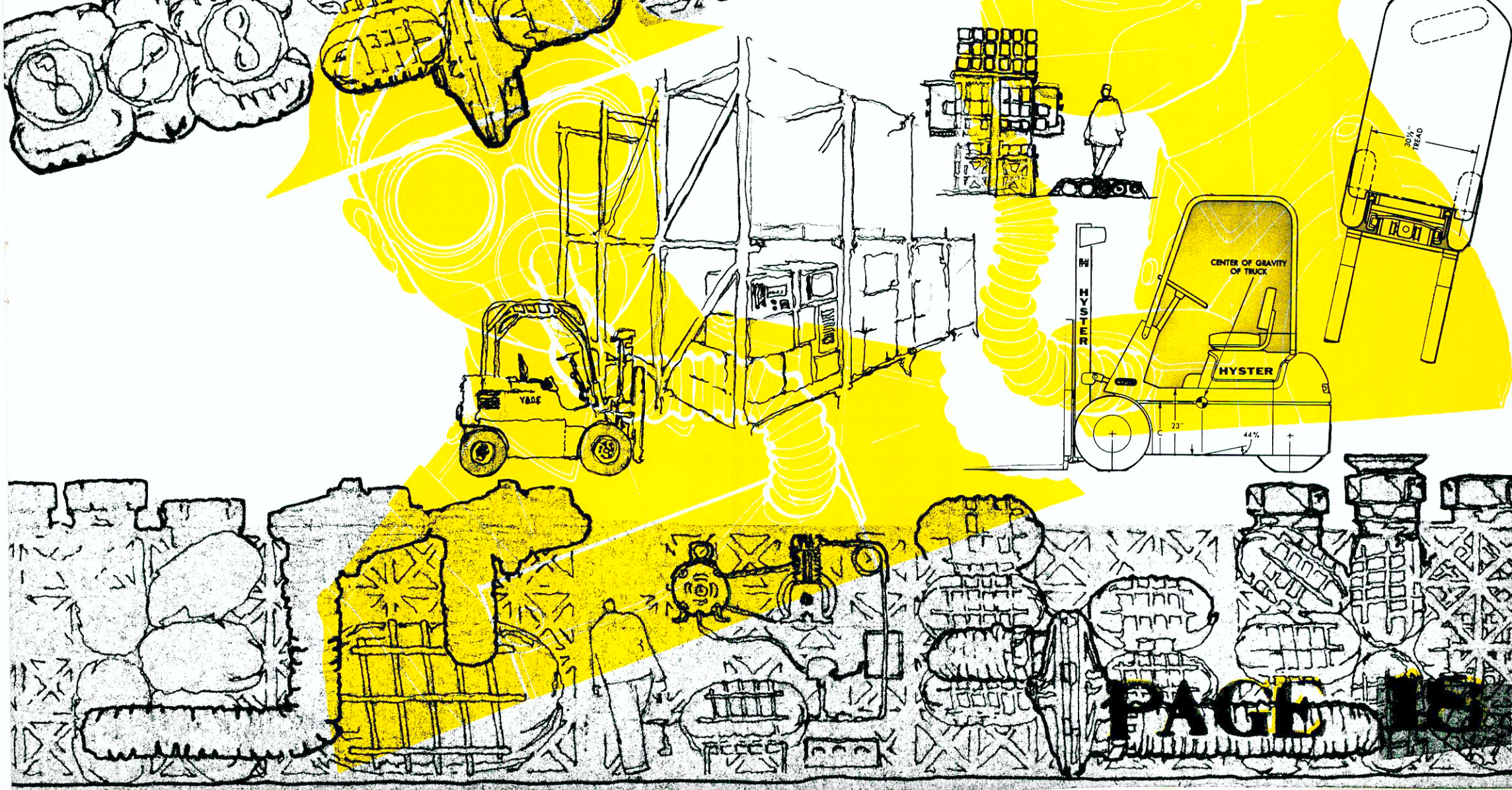
Within the figures for V are the variables we are playing with:

$$V = \frac{\left(\frac{\text{CFM at which fan is operating}}{\text{square feet of opening}}\right)}{60 \text{ seconds}}$$

(from calculation 4 above)

(the variable here to change minutes to seconds)

anywhere on the power spin



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AT&T

Delaware is one of several states that have developed a system that provides urban and rural students educational advantages. A statewide multichannel closed-circuit TV system serves Delaware schools with a total enrollment of 105,000 pupils. Programs are designed to enrich the educational process and are transmitted throughout the state over a network especially designed by Bell System engineers.

Today, regardless of location, it's no longer necessary for any student to be far away from it all. Call your local Bell Telephone Company and ask to talk to an educational communications specialist.

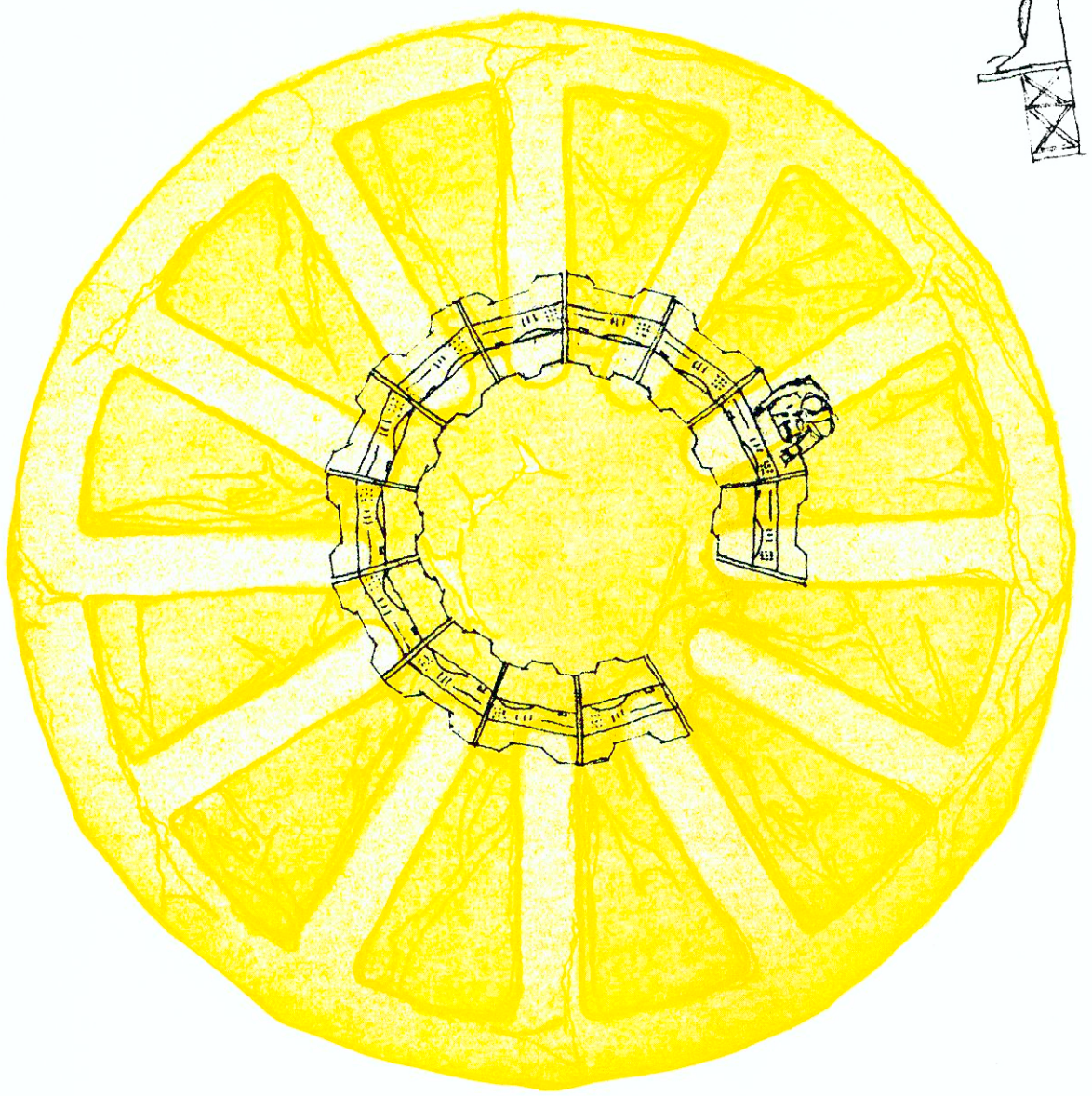
Private Home Study Schools and Educational Technology

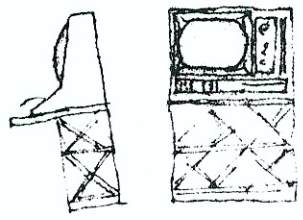
FEBRUARY • 1970

AUDIOVISUAL INSTRUCTION

Henry Q. Wellman

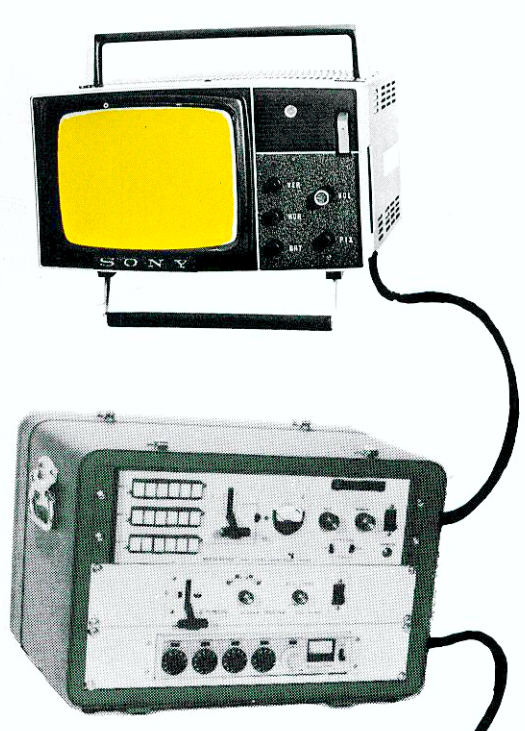
"The student will be able to dial a number for a lesson, problem, or the information he needs to complete a lesson. The response will be typed (just as airline or hotel reservations are today) or displayed immediately. The student will therefore be able to carry on a continuous dialogue with the computer as he never was able to do in home study courses or even in a classroom. Furthermore, the computer will be able to provide accurate information immediately which the lessons or instructors did not always have available. With this continuous dialogue the student in home study will be guided through a course with a patience, thoroughness, and constant attentiveness which is quite beyond the capacity of even the most talented lesson planner or instructor."

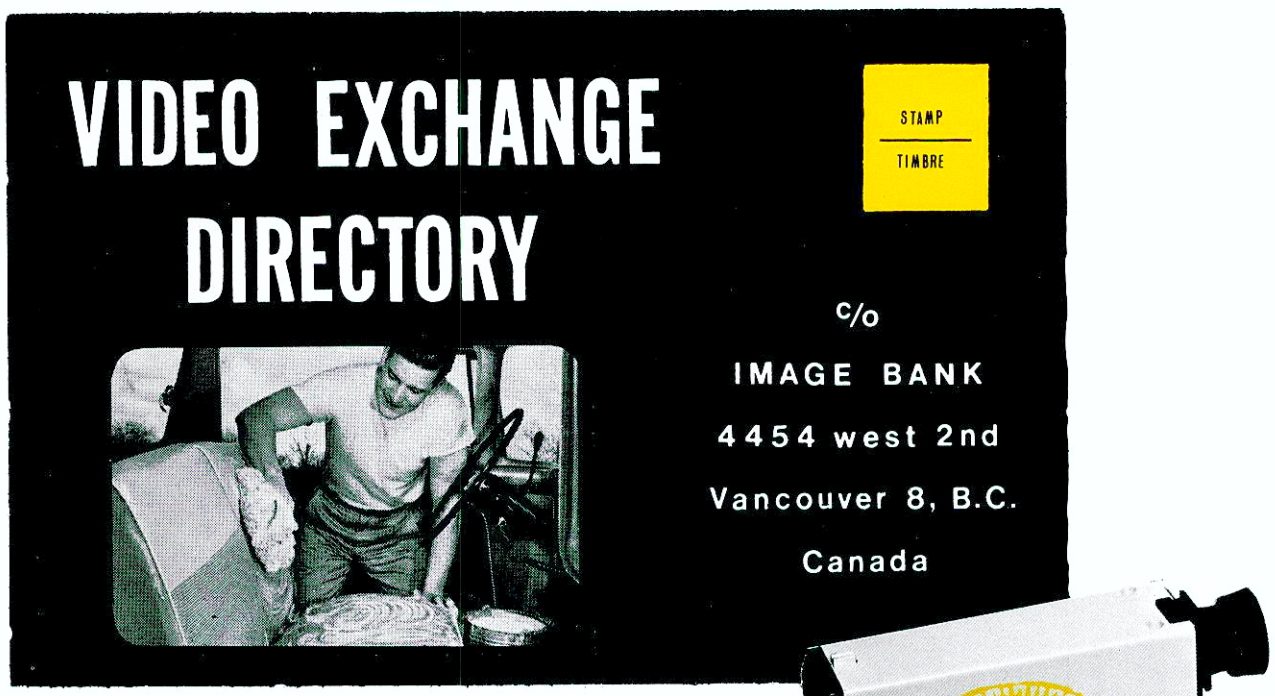


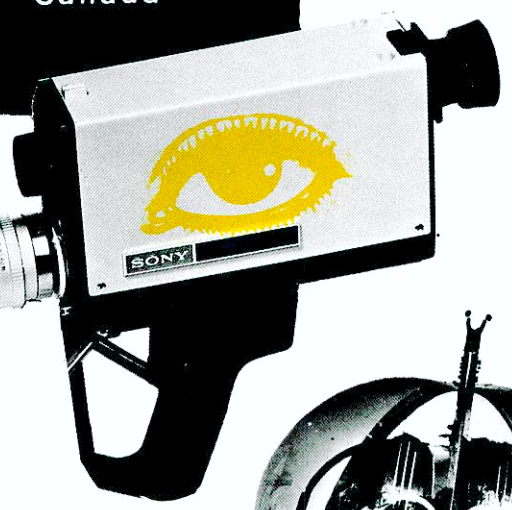


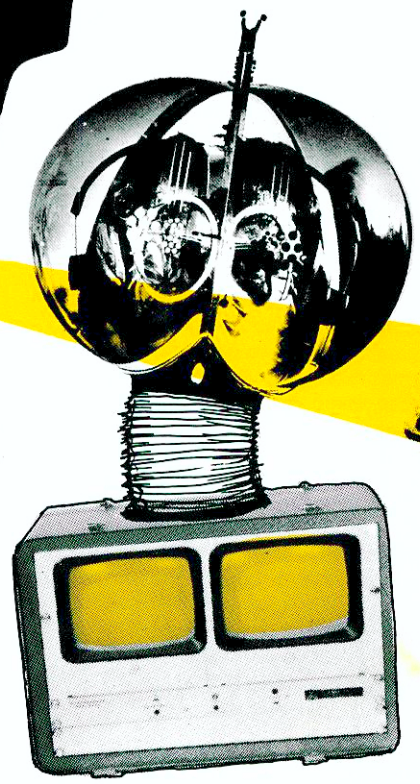
Of all the inventions that mark great eras in communications history, television must surely rank as the greatest since the written word. The telegraph, telephone, motion picture, radio, or for that matter the post office, each radically changed the way men live. Television is changing the way we *think*. It instantly transmits a replica of real events in lifelike motion, sound, and color. It is pure electronic magic, something strange in the world, and to thoughtful people rather frightening. Not since man first learned to put his ideas down in writing, thousands of years ago, has any new technique for transmitting ideas had such an impact on civilization.

Since the time of Moses and for centuries before him, civilized men have had the habit of adjusting their thinking to an orderly sequence of words. A logical conclusion—the message—emerges out of a series of mental steps. When we view television, most of the steps are skipped. Real life comes pouring effortlessly into our eyes, ears, and minds—or so it seems. The viewer-listener has no need to spell out or reason out the message. It is *there*. At least he is persuaded it is there, and he is right there with it, immersed in it. Because the image of an event is infinitely closer to reality than any written or spoken account, television has a way of becoming more real than life itself.





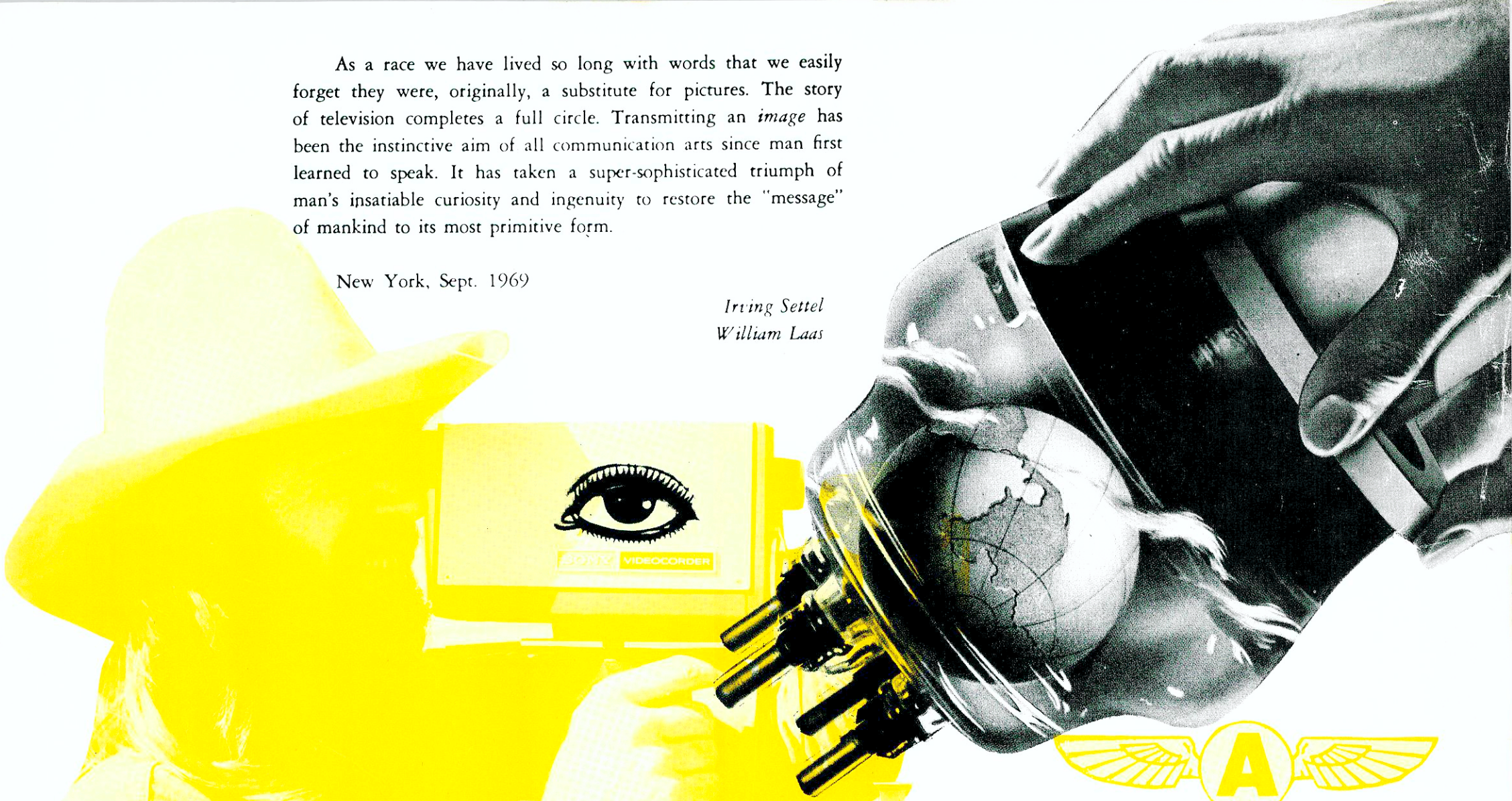




As a race we have lived so long with words that we easily forget they were, originally, a substitute for pictures. The story of television completes a full circle. Transmitting an *image* has been the instinctive aim of all communication arts since man first learned to speak. It has taken a super-sophisticated triumph of man's insatiable curiosity and ingenuity to restore the "message" of mankind to its most primitive form.

New York, Sept. 1969

Irving Settel
William Laas


SONY VIDEOCORDER
SHALLOW
INTERMEDIATE
DEEP
Now serving you in more than 550 cities in the United States, Canada, Alaska, Mexico, Hawaii, New Zealand, Cuba, Haiti, Puerto Rico, Jamaica, the Virgin Islands, Great Britain, Ireland, France, Belgium, Holland and Switzerland.

Guerrilla Television

media

"EXTRAORDINARILY BEAUTIFUL!"—Rex Reed

This book is the first of a kind. It tells us how we can break the stranglehold of broadcast TV on the American mind. In *Guerrilla Television* Michael Shamberg prints-out from his own experience how low-cost portable videotape cameras, video cassettes, and cable television can be used to design alternate television networks that favor portability and decentralization. Shamberg's contention is that politics are obsolete, and that information tools and tactics are a more powerful means of social change. To achieve true democracy the author suggests that we

develop a sense of media ecology in what he calls "media America," or the information environment. *Guerrilla Television* is the first manual for new media tools and as such is sure to find a large, sympathetic audience.

Print facilitates centralized control. Neither reading nor writing are collective activities. Rather, students are expected to sit next to each other in rows and interact mainly with a teacher, who commands visual space.

Most American secondary schools are thus a series of surveillance cells (*i.e.*, classrooms) strung along hallways. The hallways themselves are the students' only common room, but their function is to keep people moving and minimize interaction. Access to the hallways is further limited to five minutes at a time and otherwise requires a permit.

Teachers who can't penetrate their own print bias completely misunderstand media. They try to subject all other media, especially electronic ones, to a print information structure.

Educators love film, for example, because it generates the same type of control that print does. It's centrally controlled and individually experienced. (Remember the old textbook storage rooms?)

The reception of TV and radio is exactly the opposite. You can get their signals anywhere and listening to radio or watching TV is best in a group. And most important, unlike books, teachers can't control them.

The power structure of American schools is exclusively based on control of information. Teachers mis-use electronic media because they try to lay a control grid on it. Thus, the only radio permitted in schools is piped in from the principal's office. And television in the classroom is used as a surrogate teacher where everyone has to sit in rows and face a TV set at a pre-determined time. Moreover, the only time kids are allowed to make their own TV is when it's in the context of vocational training.

Educational television is probably the biggest hype that educators have ever put over on American kids. Even though TV has replaced print, I know of no school where the kids are encouraged to make their own TV as a primary mode of expression. Yet at home the kids are gobbling up TV. The result is that growing up in America on television is like learning how to read but being denied the chance to write.

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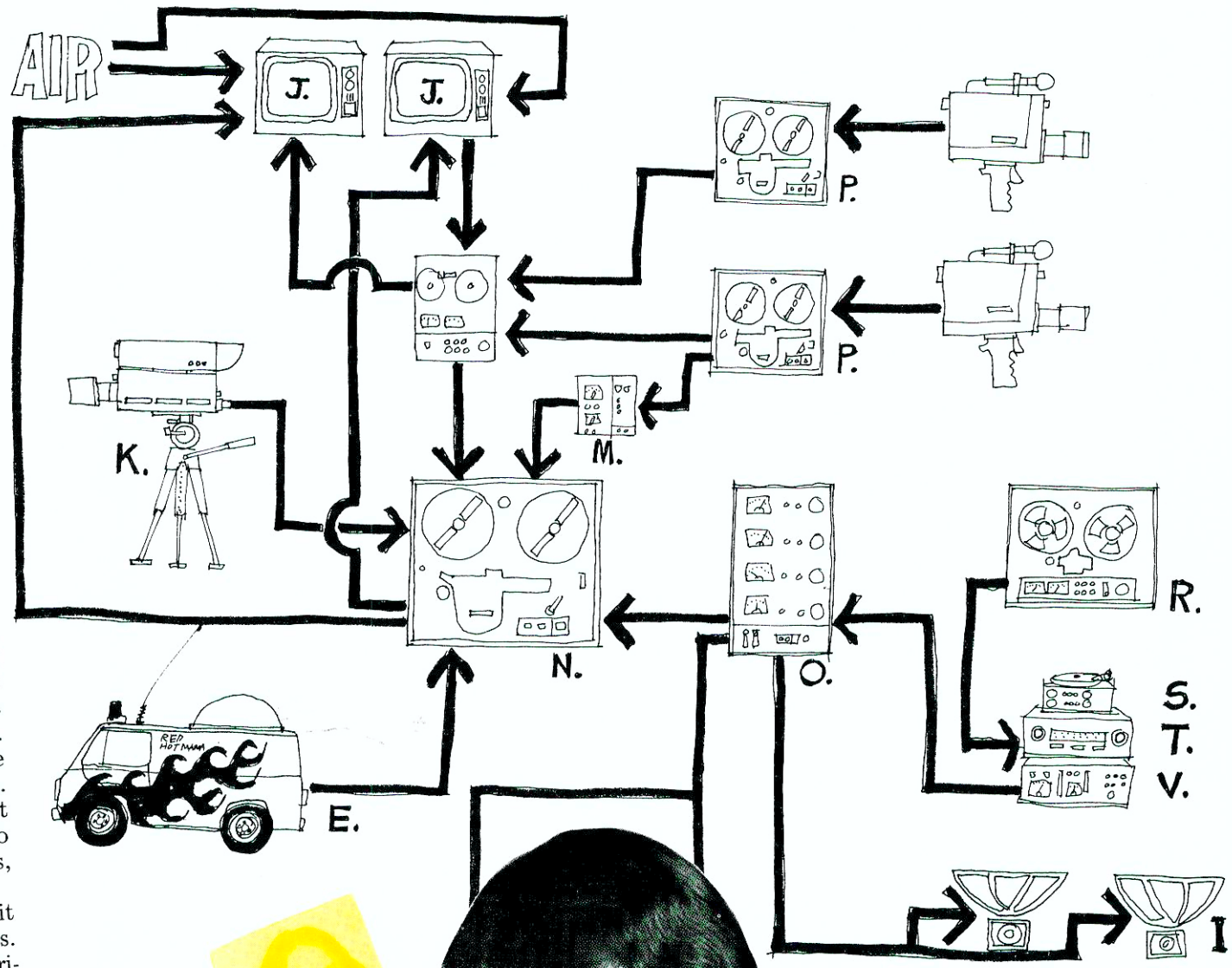

J. WALL MONITER
M. SCAN CONVERTER
N. ½" TAPE VIDEO REC.
O. SOUND MIXER
P. PORTA PACK
R. AUDIO RECORDER
S. TURNTABLE
T. RECIEVER
V. AMPLIFIER

RED HOT MAMA
N.
R.
S.
J.
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PAGE 4

The Self
As an Automobile

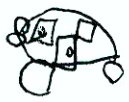
"I don't draw people, I draw cars," an angry 13-year-old boy snarled when psychologist Jan Loney asked him to take the Draw-a-Person Test. "Go ahead and draw a car," she replied. He did—a bullet-shaped dragster that bore the year of his birth as an identifying number and had what he called "power-stealing" as an accessory. From this experience came a new diagnostic tool, the Loney Draw-a-Car Test.

"Essentially, we simply assume that the car is a metaphysical representation of the self and we consider what the child draws, how he draws it and what he says about it," reports Loney, who is chief of the State Psychopathic Hospital's Child Psychiatry Service in Iowa City. The test tells a great deal about a child's self-esteem, impulse control, vulnerability and defensiveness, she says.

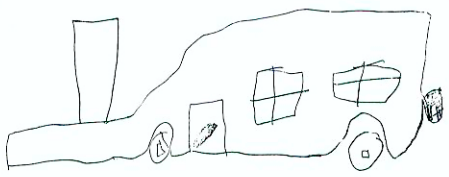
She finds the test particularly useful with "alienated and angry" boys who "feel quite negative about drawing in general" and who find the idea of drawing a person "especially boring, demeaning and irritating." In most cases, girls also find the test "engaging and reasonable."

Loney hopes to develop the test into a quantitative predictor of cerebral dysfunction. She believes that motor deficiency shows up in a discrepancy between the number of car details (powers of observation) and the correctness of details in terms of the car's size, shape, position, and completeness (powers of execution).

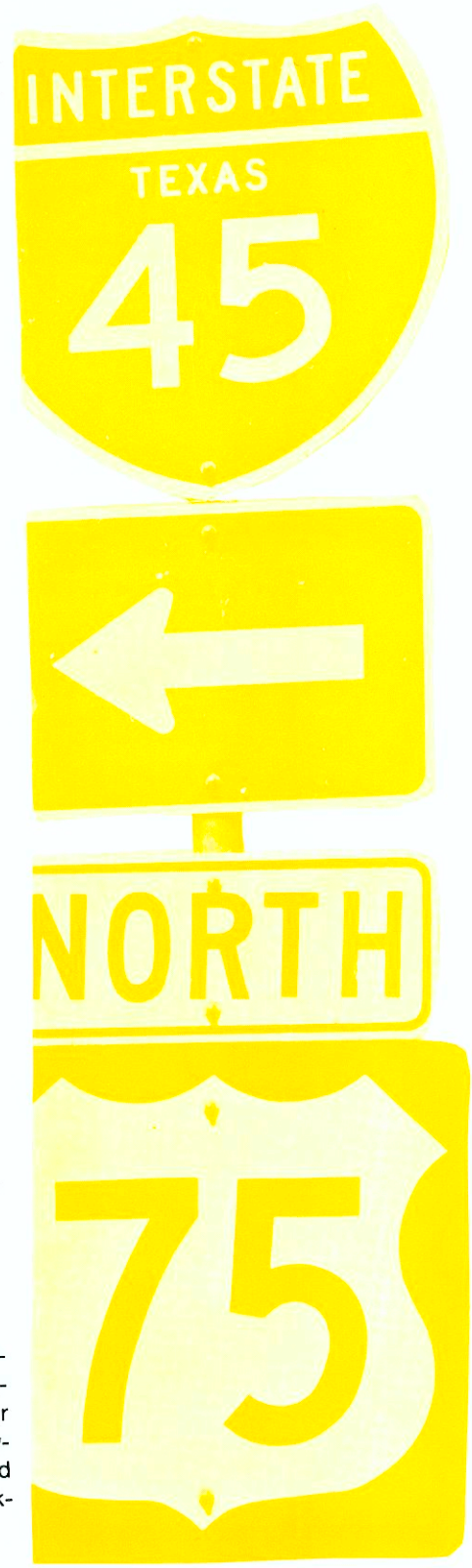
Drawing A, reproduced here, was



done by a seven-year-old girl with a diagnosis of conversion hysteria (an inability to walk). She described her car as little and funny, with flat tires. Drawing B, "a 1986 bullet-proof Packard convertible," was the work of a talk-



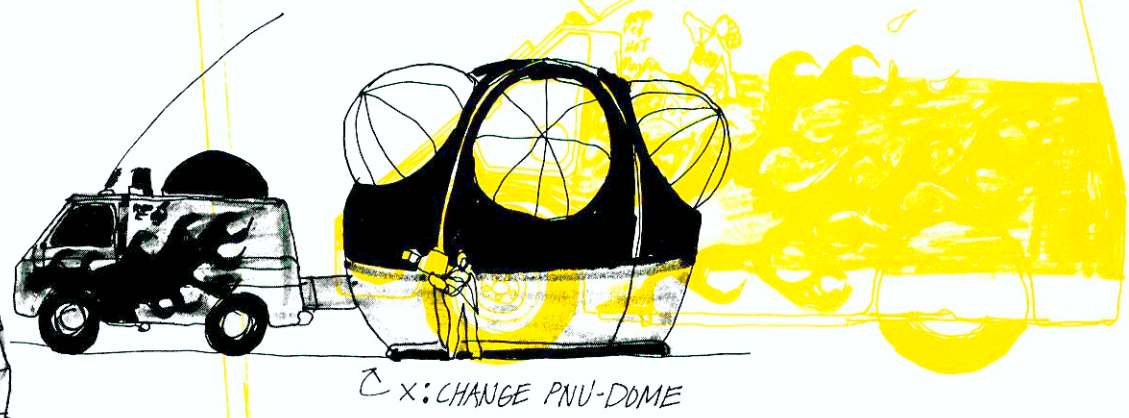
ative, occasionally assaultive, slightly retarded boy with a diagnosis of chronic brain syndrome. The raised hood—a sign that the car is immobilized—has been associated with cerebral dysfunction in her patient sample, Loney says.



Distance melts away on the INTERSTATE HIGHWAY SYSTEM . . .

As more miles of the Interstate Highway System are opened to traffic, Americans in increasing numbers will visit National Parks throughout the country.

This superbly engineered network of highways, which is crisscrossing the United States, is bringing the Parks to within driving distance of many Americans for the first time. The highways provide a link between the city dweller and the magnificence of outdoor America, enabling him to enjoy new recreational opportunities, and affording him new educational, cultural, and spiritual experiences.

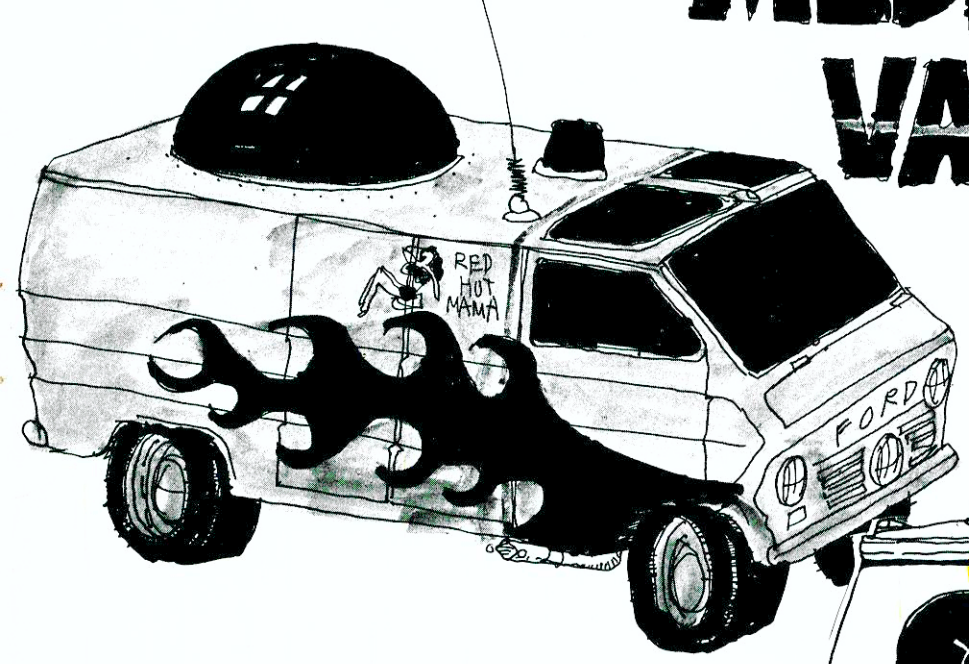


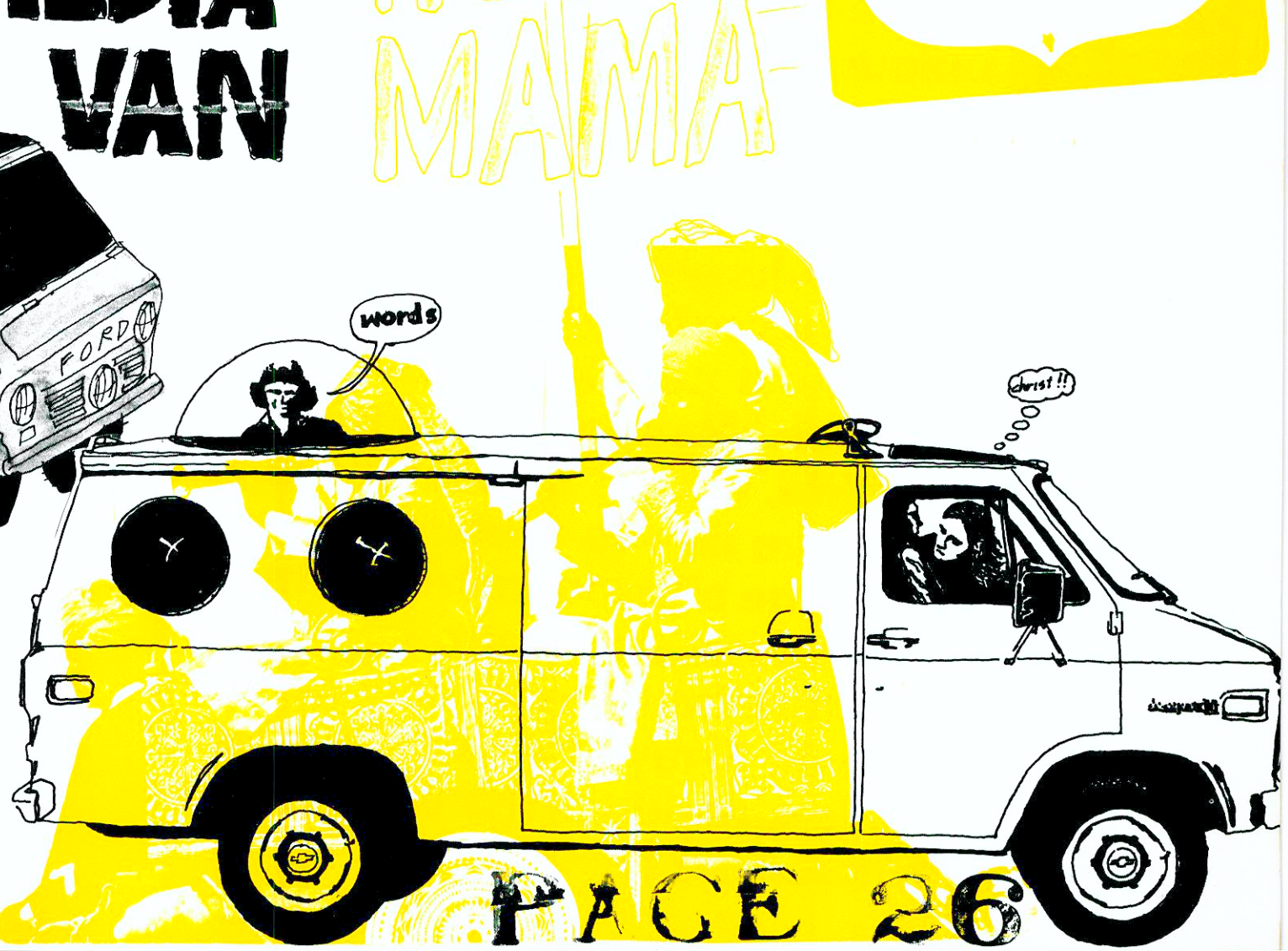
℄ X: CHANGE PNU-DOME

RED HOT MAMA

75

MEDIA VAN



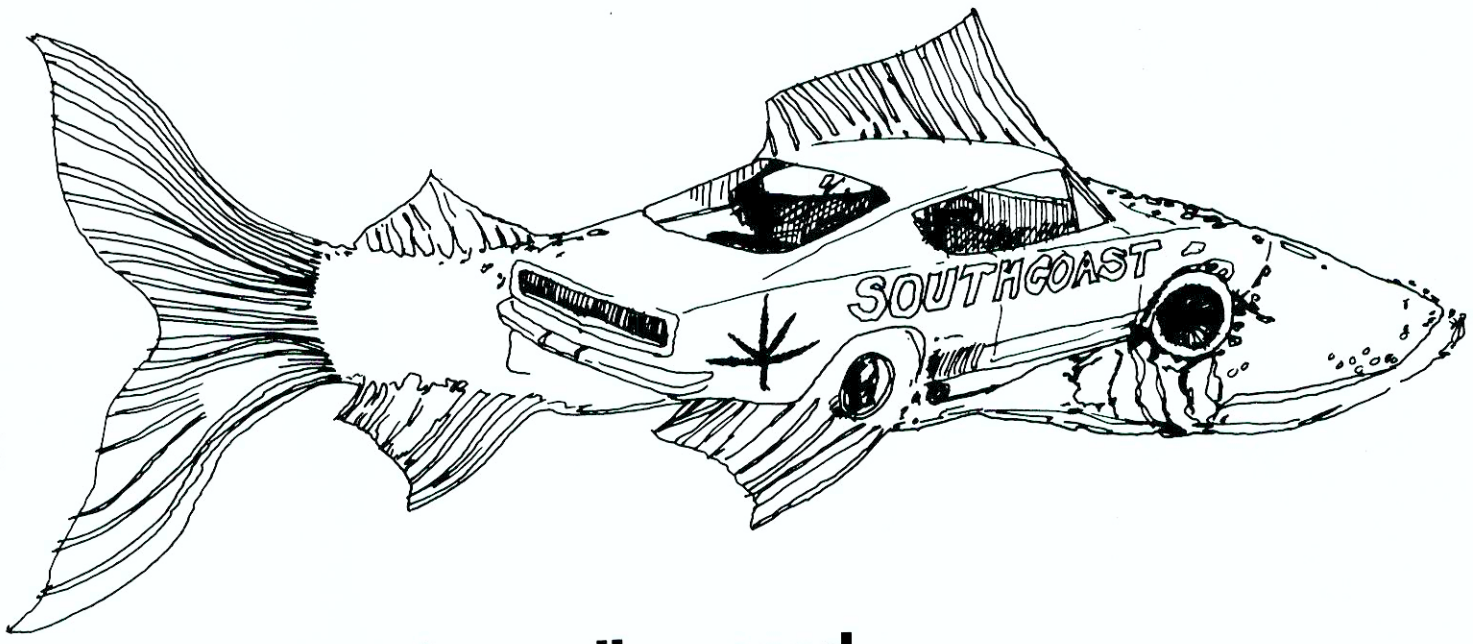


Private industry is moving in to help solve the problem, however. Last year, there were more than 700,000 campsites in the country. Two thirds were in private campgrounds, which are increasing their facilities at more than twice the rate of the public campgrounds. While campsites at most federal and state campgrounds are on a first-come, first-served basis, many private places accept reservations. The commercial campground business has gone far beyond the Mom-Pop-and-backyard stage. The Gulf Oil Company has invested in a chain of trailer parks. Some Holiday Inns and Ramada Inns are now offering camping accommodations adjacent to their existing facilities, and some campground owners are *selling* campsites to customers who want to be assured of a parking space whenever they want it.

But the most important innovation is the development of chains of franchised camp operators. Largest is Kampgrounds of America, Inc., with 525 installations in the United States, Canada and Mexico. Many have tent trailers for rent (about a fourth of all camping trips are made in rented recreational vehicles), so you can drive right in and camp right out, without the necessity of bucketing the trailer along behind you on your way to the area.

TRAVEL NOTES
RICHARD JOSEPH

ESQUIRE: NOVEMBER



If all the vehicles we have discussed so far were to disappear in some unique catastrophe in the next ten seconds, it would make little difference to mobility on this planet. Continents drift, currents shift, winds blow, snakes slither, hawks glide, the little fish flash in silver schools of motion. In most of the inhabited world, most people still walk to act out their daily roles. We know very little about the morning of life, except that it was where mobility began; we like to think we know a little more about the afternoon. In that mossy glade, with the late sun illuminating the dance of a creature half beast, half god, we dimly see, as in an X-ray, the mobility that is his heritage. We should be thankful we can not see his evening as clearly.

PAGE 27

KAISER
ALUMINUM & CHEMICAL CORPORATION

KAISER CENTER
300 LAKESIDE DRIVE
OAKLAND, CALIFORNIA • 94604

MOBILITY: FROM THERE TO HERE

TRUCKIN' UNIVERSITY

EDUCATIONAL DIVISION OF SOUTHCOAST, INC.

A FULLY ACCREDITED LIFESTYLE INSTITUTION

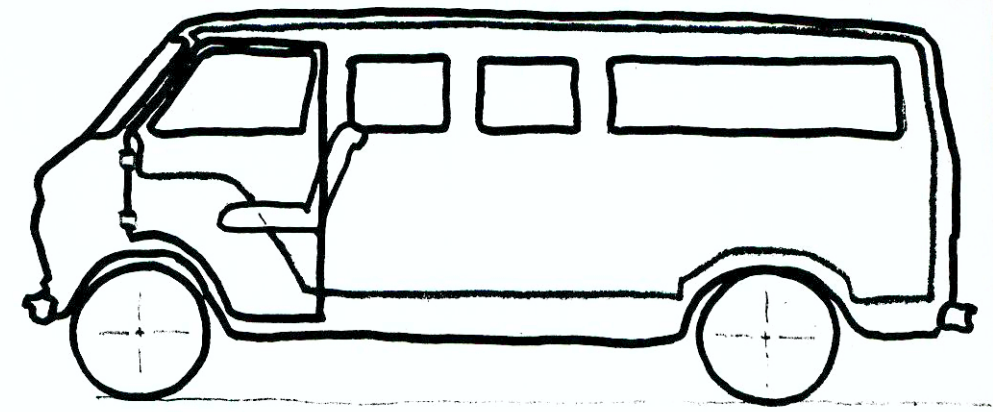
Mr. Goodbar sez: (HE'S NOT SHUTTIN' AROUND)

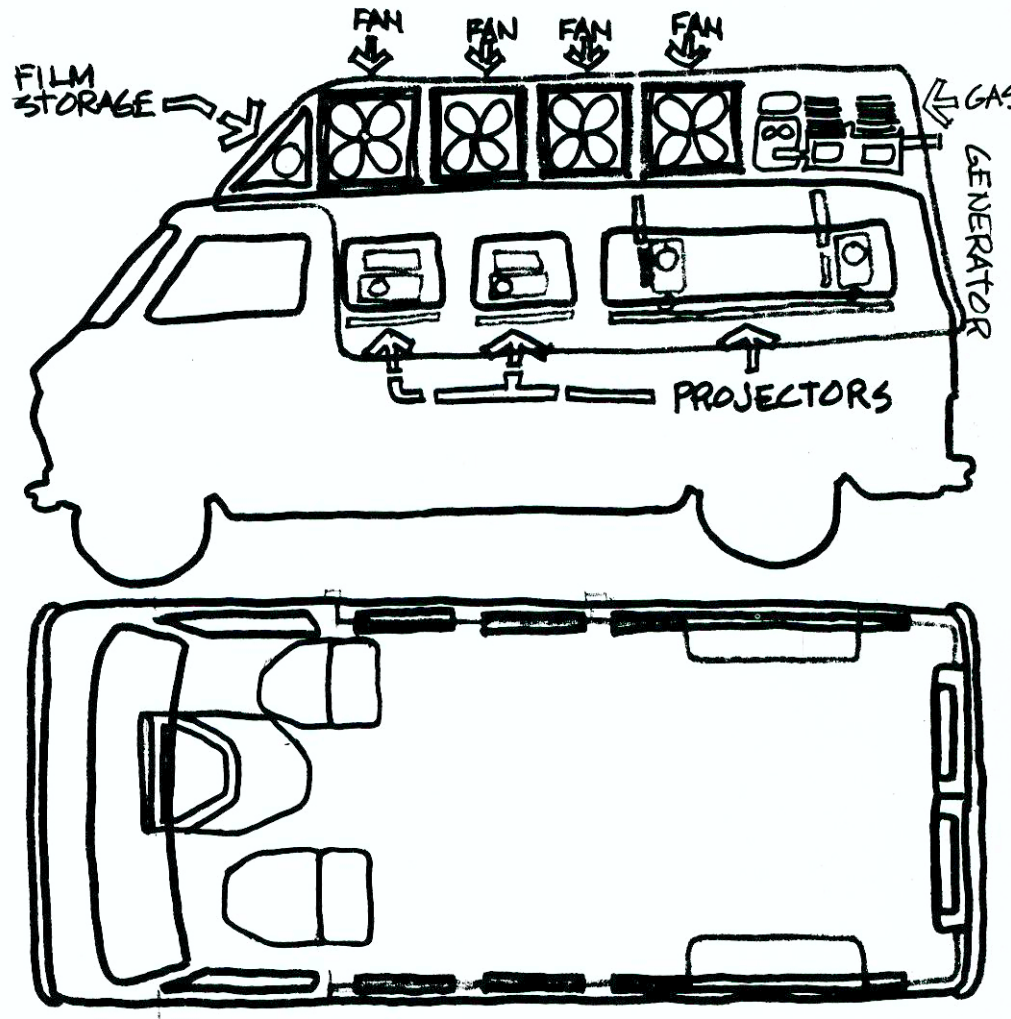
GET A GOOD AMERICAN EDUCATION WHILE YOU STILL GOT A CHANCE !!

-GET SET FOR THE FUTURE !!
-STEP UP TO GOOD PAY !!

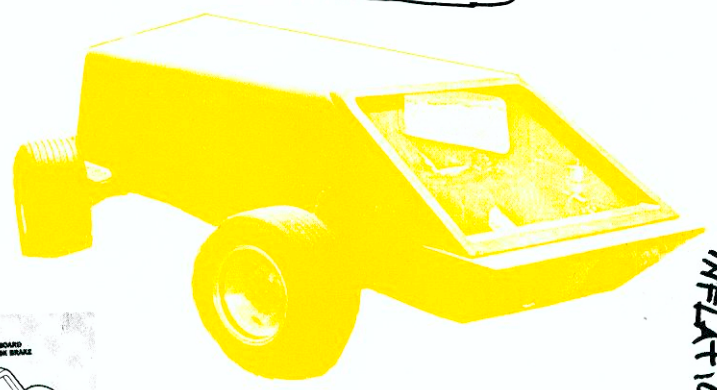
PROCESS

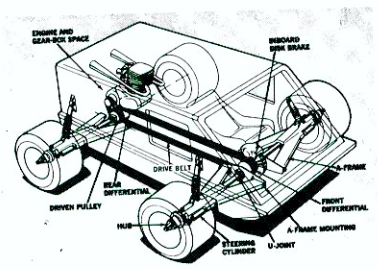
NO.	INPUT/TOOLS	PROCESS	OUTPUT
27	SCHOOL BUS MODIFIED FOR MOBILE EDUCATIONAL STIMULI AND LIFE SUPPORT VEHICLE FOR THE FACILITATORS/CREW.		SEE CAPABILITY OBJECTIVE AND KEEP READING.
14	STAGE II MEDIA VAN WITH LATEST HIGH OUTPUT ACCESSORIES AND LIFE SUPPORT FACILITIES FOR CREW.		AIN'T YOU NEVER HEARD ABOUT THE SOUTHCOAST MYTH OR HOTFOOT OR ANYTHING? KEEP READING.
5	PORTABLE VIDEOTAPE CAMERA AND PORTABLE TAPE TRAP UNIT.	SPECIAL EFFECTS DECK FOR EDITING, ALTERING, OR MONITERING VIDEO INPUT. VEHICLE 1.	VIDEO BLOWUP PROJECTOR FOR LARGE SCALE DISPLAYS AND ENVIRONMENTAL SPECIAL EFFECTS.
10	SUPER 8 AND 16 MM FILM CAMERAS FOR RESPONSE DOCUMENTATION.	FACTORY FILM PROCESSING EDITING AND SPLICING FACILITIES. VEHICLE 1.	PROJECTORS AND VARIOUS SURFACES FOR PROJECTION... PLASTIC, PARACHUTES, BUILDINGS.
3	35 MM STILL CAMERAS WITH COMPLETE SET OF LENS, FILTERS, AND ACCESSORIES.	FACTORY COLOR FILM PROCESSING MOBILE DARKROOM FACILITIES IN VEHICLE 1.	SLIDE PROJECTORS MAY BE MODIFIED FOR HANDHELD PORTABILITY AND MAY BE PROJECTED ON A VARIETY OF SURFACES.
61	LINEAR MEDIA MACHINES SUCH AS TYPEWRITERS AND DRAWING EQUIPMENT PLUS CREDIT CARD FOR LOCAL REPRODUCTION FACILITIES.	ACCUMULATION AND ORGANIZATION OF MATERIAL FOR PRINTING. PUBLICATION PREPARATION FACILITIES TO BE IN VEHICLE 1.	LINEAR MEDIA IS USEFUL AS HISTORICAL TESTIMONY OF A CHANGING REALITY. MAKES GOOD ASS WIPES TOO...TRY THIS ONE.
9	PHONOGRAPH, AM/FM TUNER, TAPE RECORDERS, MICROPHONES, AMPLIFIER OUTPUTS FED INTO CENTRAL AUDIO CONTROL PANEL.	CENTRAL AUDIO CONTROL PANEL SELECTS AND MODULATES OUTPUT FROM VARIOUS INPUTS.	ASSORTMENT OF HIGH PERFORMANCE SPEAKER SYSTEMS FOR USE AS ENVIRONMENTAL MODULATORS.
35	COMMUNICATION BETWEEN INDIVIDUALS IN DISRELATED SPECIALITY FIELDS	ACCESS TO AND USE OF LOCALIZED, NON-MOBILE TECHNOLOGY AND RESOURCES.	PROTOTYPICAL TECHNOLOGICAL AIDS TO ENVIRONMENTAL CONTROL, EDUCATION, CULTURE, ETC.
12	POLYETHYLENE, SILVER MYLAR, POLYTAPE, AND OTHER LARGE AREA FLEXIBLE MEMBRANES.	SOUTHCOAST AIR FARCE	GROUP ENERGIES INVOLVED IN DESIGN AND EXECUTION OF PNEUMATIC ENVIRONMENTS. DISPOSABLE BUILDING SYSTEMS. CREATES A NEW INVOLVE/EVOLVE PROCESS IN STAGNANT EDUCATIONAL ENVIRONMENTS.
76	WOOD DOWELS, ALLOY CONDUIT, PLASTIC CONNECTIONS, RUBBER HOSE, AND OTHER COMMON INEXPENSIVE MATERIALS.	DEMONSTRATION AND EXPLANATION OF ENVIRONMENTAL STRUCTURAL SYSTEMS USING WHOLE EARTH TECHNOLOGY AND WHITE TRASH RESOURCES. GROUP INVOLVEMENT DURING ERECTION STIMULATES NEW APPLICATION OF STRUCTURAL SYSTEMS.	
6	COMBINATION OF THE ABOVE TOOLS INTO A MOBILE THOUGHT PROCESS STIMULATION SYSTEM RELEVANT TO A SPACE AGE CULTURE.		CREATION OF ENVIRONMENTAL SENSORY OVERLOAD CONDITION WHEN PERSONAL INPUT SYSTEMS OVERLOAD PROCESSING SYSTEM (BRAIN) AND INADEQUACY OF CURRENT EDUCATIONAL/PROGRAMMING SYSTEM IS SHOWN. SEE ALSO: FREAKOUT, MIND FUCK, COSMIC TRUTH, ETC.

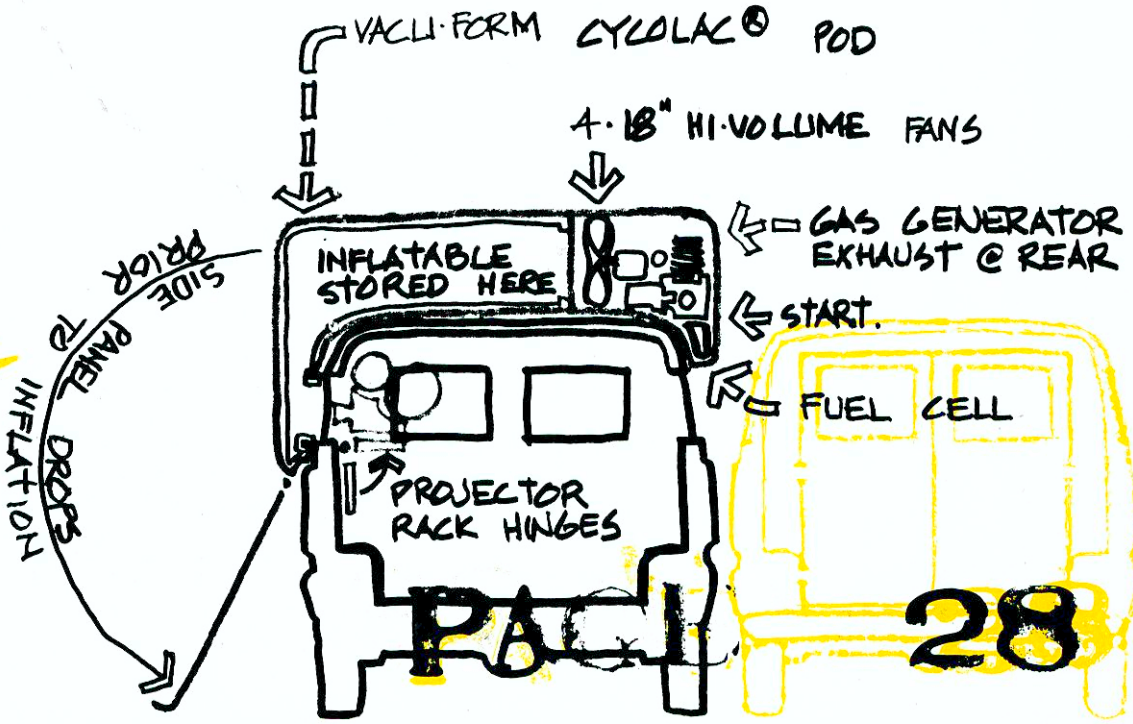




"The Box"!
Belt-driven on-and-off-road vehicle corners flat with independent swing-axle suspension. It tops 100 mph, even converts to an amphibian.

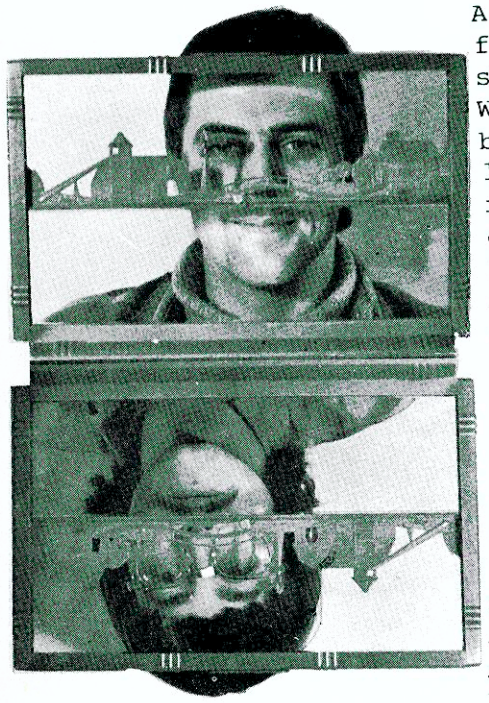






ANT FARM PROPOSAL

2



We propose a display area for alternate futures, a place where the Expo visitor may experience a feeling for the life style of the turned on global community. The main objective is information dispersal. A secondary objective is to provide a place for a world concave on the psychedelic studies.

We can best realize the idea by actually building a community displaying alternate life style futures. The community would revolve around basic necessities: A resource center for tools and equipment,and a mega-Frame containing basic living needs and adaptable to varying functions. There is no permanent display as such, but basic to the idea is an expansion of the visitor's reality through experiences shared. The community will invent these experiences using the tools and equipment provided.

realCity

The community would be a non static entity, a mobile force of media nomads which will respond to and influence the Expo at many levels. Intended indeterminacy keeps the future response openended so that the exhibit is a constantly changing physical/non physical environment.

THIS VEHICLE IS DESIGNED FOR NEEDS AND WORLD COMMUNITY SYSTEMS THAT ARE NOT IN EXISTENCE TODAY.....THESE VEHICLES CAN BE BUILT TODAY WITH EXISTING PARTS, MATERIALS AND PROCESSES AND AS A MACHINE COULD FUNCTION WITHOUT FLAW....FLAWS IN A SYSTEM SUCH AS THE ONE OF WHICH THIS VEHICLE IS ONLY A PART, COME FROM THE MISUSE AND/OR THE PARTIAL USE OF THE SYSTEM. A SYSTEM CAN BE CONSIDERED ONLY AS GOOD AS ITS WEAKEST COMPONENT AND IN THIS PARTICULAR SYSTEM THE WEAKEST COMPONENT IS MAN AND HIS DEGREE OF SENSITIVITY AND AWARENESS AS THE INTERFACE BETWEEN MACHINE AND WORLD AND HUMAN ENVIROMENT. THE VEHICLE TO THE SYSTEM OF WHICH IT IS A PART WILL BE JUST ANOTHER EFFICIENT SYSTEM THAT WILL GENERATE AND BREED COUNTLESS NEW PROBLEMS IF THE SAME AMOUNT OF CARE AND FORETHOUGHT IS NOT USED IN THE RESEARCH AND DEVELOPMENT OF ITS INTERGAL HUMAN COUNTERPART.

9

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kelly gloger box 612 goddard college plainfield vt

air transport

truck

helicopter

snow train

railroad

ship

TIME PLANS

3 EXPO MOBILE

KINETIC THEATRE EVENTS AND EXPERIMENTAL LIFE DEMONSTRATIONS OCCUR PERIODICALLY AT VARIOUS POINTS AROUND THE EXPOSITION SITE.

LIVING ARCHITECTURE

LIFE ART

30min

4 TOKYO

EDUCATIONAL EVENTS IN NEW LIFE STYLES PRESENTED BY LIVING THEM ON CAMPUS INVOLVING STUDENTS AT VARIOUS LEVELS

SHORT TERM GUEST SEMINARS

2days

2 COUNTRYSIDE

COUNTRYSIDE EXCURSIONS TO DEMONSTRATE THE PNEUMATIC TRIBE THEORY.

SPECIAL EVENTS RESPOND TO THE ENVIRONMENT.

ROCK CONCERT IN THE FOREST

LIFE SURVIVAL EXPERIMENTS

PICNICS

7days

1 HEADQUARTERS

MEDIA FRAME

AN EVOLVING EXHIBIT ON THE CURRENT STATE OF THE ART OF LIVING.

RESOURCE STORAGE

MEDIA CENTER

WATERFALL

LIVING QUARTERS

6months

TERRESTIAL EXCURSION POD SCHEMATIC

VEHICLE	TOOLS/RESOURCES	USES
TRUCK, CARGO, 2½ TON, 6x6, M 35, SURPLUS, ARMY, DEPARTMENT OF, UNITED STATES. ✱ MODIFICATIONS ✱ 1. EQUIPED TO OPERATE ON COMPRESSED LIQUID PETROLEUM FUEL (BUTANE). 2. EQUIPED WITH CURRENT INVERTER.	DIRECT DRIVE POWER TAKE-OFF AT FRONT AND REAR.	OPERATION OF AUXILIARY MECHANICAL ACCESSORIES FROM VEHICLE POWERPLANT.
	10,000 POUND CAPACITY WINCH AT FRONT.	ERECTION TOOL FOR TILT UP OR PREFAB CONSTRUCTION.
	DUAL OUTLETS FROM COMPRESSED AIR (BRAKE) SYSTEM.	APPLICATION OF PAINT, SPRAYED FOAMS AND FIBREGLASS, PNEUMATIC TOOLS
ELECTRIC CURRENT INVERTER. DC to AC.	10 WHEELS DRIVEN, 12'-4" x 7'-6", 2½ TON CAPACITY BED.	SITE PREPARATION, HAULING, TRANSPORTATION, LIASION WITH REALITY.

AC GENERATOR | BUTANE FUEL CELL | FOOD PREP. | FOOD STORAGE | CLIMATE CONTROL

JUNCTION BOX WITH FUSES RELAYS, GROUNDING SYSTEM.

PUMP FOR HYDRAULIC SYSTEM

DUAL ACTION HYDRAULIC SYSTEM FOR 1 TON CAPACITY @1200 PSI

SWITCHES, OUTLETS, AND CIRCUITRY

ENVIRONMENTAL LIGHTING SYSTEM. 110 v AC FOR INTERIOR OF TEP.

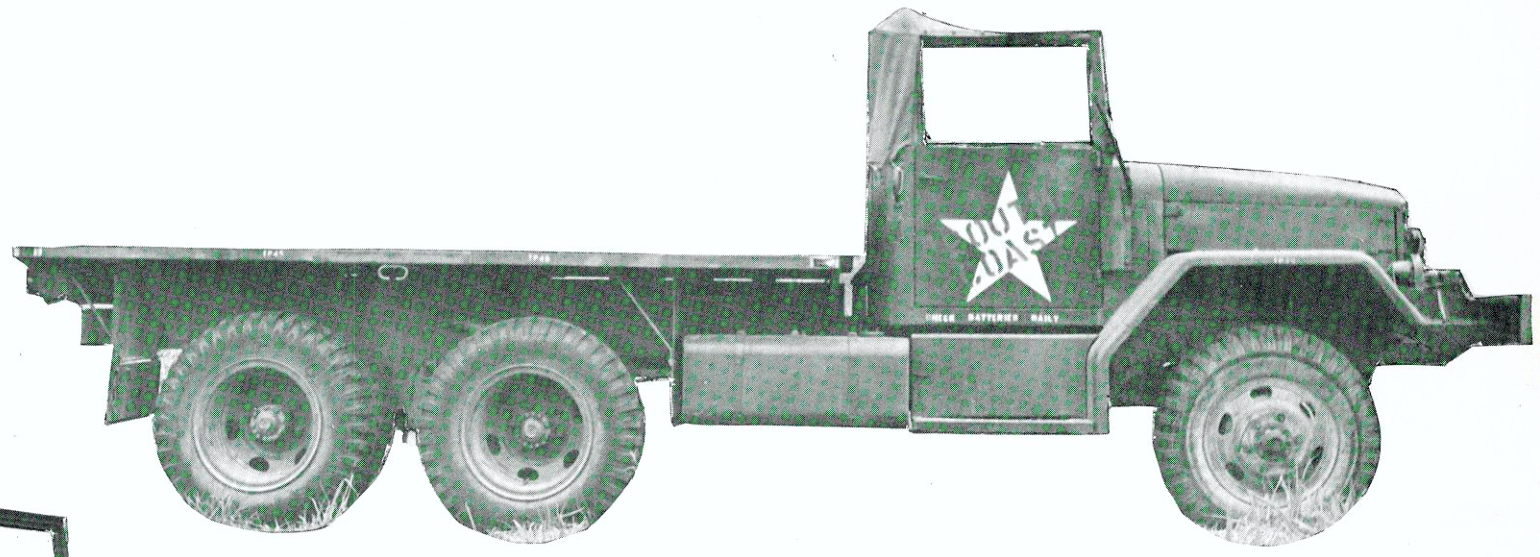
MEDIA CONTROL PANEL FOR INPUT AND OUTPUT SYSTEMS.

MEDIA SYSTEMS VARY ACCORDING TO THE SPECIAL APPLICATIONS OF THE POD. BASIC SYSTEMS INCLUDE SOLID STATE VISUAL AND AUDIO MEDIA AS WELL AS BATTERY POWERED PORTABLE UNITS. INPUT/OUTPUT.

PLUG-IN SPECIAL EFFECTS MODULES

TEACHING MACHINES, COMPUTER TERMINALS, SPECIALIZED SCIENTIFIC AND DATA GATHERING EQUIPMENT.

220 v GROUNDED CIRCUITRY FOR HAND TOOLS.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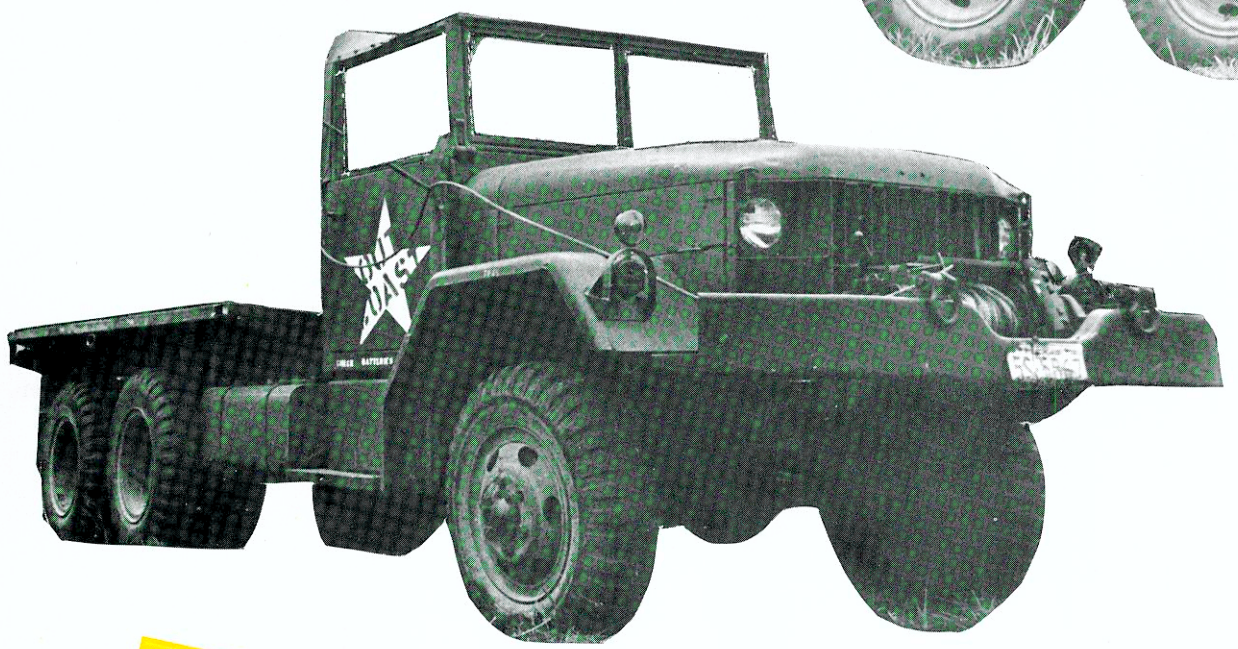
ADAS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ADAS

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Brookshire, TX

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247 Gate 5 Road
Sausilito, CA 94965

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24 Bond Street
New York, NY

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School of Education
University of Michigan
Ann Arbor, MI 48104

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Antioch at Columbia
Rurik Eckstrom
10351 Barcan Circle
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INSTANT CITY

Palmer Shile Racks
422 South Western Avenue
Los Angeles, CA 90005

Equipment Company of America
1075 Hialeah Drive
Hialeah, FL 33010

Surplus Center
1000 West "O" Street
P.O. Box 713
Lincoln, NB 68501

Pioneer Gen-E-Motor Corp.
5841 W Dickens Avenue
Chicago, IL 60639

P.V.C. Engineering Data
Borg-Warner Pipe and Products
1524 Crystal Avenue
Kansas City, MO 64126

VIA 1 Ecology in Design
Graduate School of Fine Arts
University of Pennsylvania
Philadelphia, PA 19104

Domebook Two
Pacific Domes
Box 279
Bolinas, CA 94924

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4118 South Wayne Road
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11000 Roosevelt Blvd.
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MEDIA

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62 Tarbell Avenue
Lexington, MA

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Michael Shamberg and
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Holt Rinehart and Winston
383 Madison Avenue
New York, NY 10017

Motive Ltd.
100 Voice Road, Carle Place
New York, NY 11514

Newsreel
322 7th Avenue
New York, NY 10001

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2615 West 7th Street
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9105 Madison
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800 Sonora Avenue
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